TECHNOLOGY DEPT.

TEXTILE WORLD

FEBRUARY • 1945

DETROIT

ANNUAL REVIEW AND FORECAST NUMBER

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For some years we have furnished K A stop motions on new Draper looms. Hereafter, we can apply these motions to looms already installed in mills, following the practice of the Rhode Island company.

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FOR THE TEXTILE INDUSTRY

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THE *Long-Range View*

INTERNATIONAL Textile Standards

Disapproval of the decision by The Textile Institute, Manchester, England, to apply the term "rayon" to all man-made fibers was voiced last month by Committee D-13, the textile committee of the American Society for Testing Materials. As A. G. Scroggie, of Du Pont's rayon division and chairman of D-13's subcommittee on nomenclature, pointed out in a communication to England, the American consumer has been educated—most particularly by experience with wartime hosiery—to distinguish between rayon and at least one of the non-cellulosic fibers, nylon. Furthermore, manufacturers of such new fibers as Aralac, Vinyon, Fiberglas, and so on have no reason whatever to class their fibers as rayon and could not be counted on to support voluntarily such a movement in their consumer promotion. And finally, the Federal Trade Commission has ruled that rayon fibers have a cellulosic base; and therefore—strange as it may seem—it would be illegal for manufacturers of such fibers to call them rayon even if they wanted to.

Mr. Scroggie makes the point to England that confusion can be avoided by the adoption of a standard terminology throughout the English-speaking textile industry. He of course admits the possibility that some brand new term could be applied to all man-made fibers, but calls attention to the fact that the phrase "synthetic fibers" is in common use today and the time is past when the word "synthetic" connotes inferiority.

The present situation with respect to man-made-fiber nomenclature makes the squabble some years ago over the question whether cellulose-acetate fibers should be called rayon seem regrettable. It is now questionable whether the Federal Trade Commission should have ruled that such fibers are rayon, since in many respects—particularly in their reactions to chemicals and heat—cellulose-acetate fibers differ as much from viscose and other regenerated-cellulose fibers as do nylon, Aralac, and Fiberglas. Today it might be sensible to confine the use of the term "rayon" to at least regenerated cellulose, if not to viscose alone.

We hope that the British will listen to Committee D-13. That committee represents what is perhaps the best segment of the technical personnel of the American textile industry. Its members are energetic, intelligent, and forward-looking; and they have accomplished much toward standardizing and simplifying many complicated and diversified procedures in an old tradition-bound industry with widely separated roots.

The Committee's appeal to the British is one of those rare—too rare—instances wherein an American industry asks a foreign industry to conform to American practice; and it raises the question as to whether we on our part are willing to give full consideration to foreign practices in the establishment of our own standards.

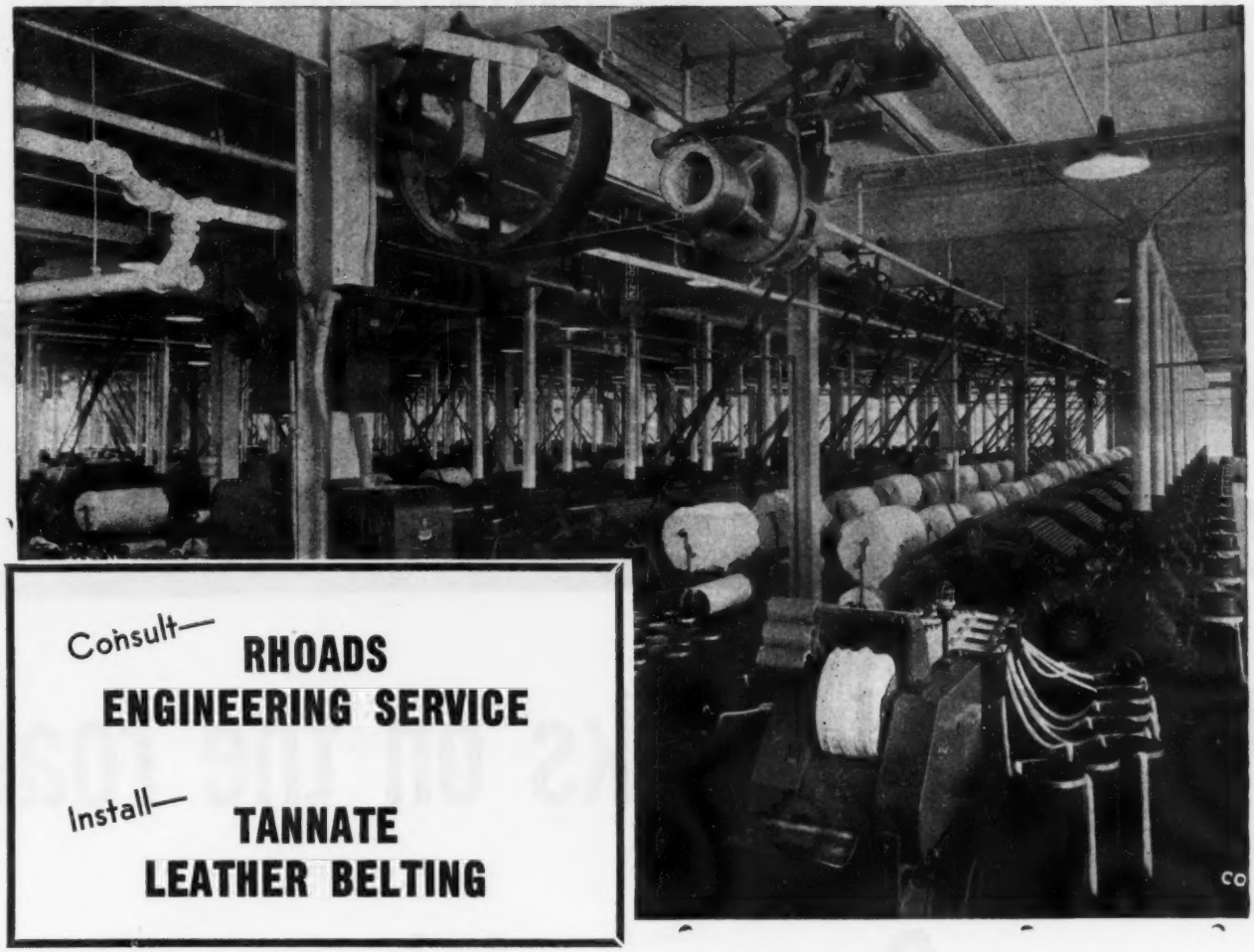
Take the recent case of the promotion of a metric system for numbering all yarns. This same Committee D-13, fully aware that an existing metric system is in legally required use on the continent of Europe, devised a brand new one, as strange to us as it is to Europeans. The chief objection to the European system advanced by D-13's members (particularly the synthetic-fiber members, who use the denier system) seems to be that it is based on the fixed-weight principle—that is, high numbers designate fine yarns and low numbers designate coarse yarns. But the fixed-weight principle is common to all the staple-fiber systems used day in and day out for cotton, worsted, woolen, and even synthetics; and it is rare indeed that a calculation arises in mill work which can be handled more simply on the fixed-length basis. Possibly D-13's Grex system is superior to the European metric; but it would seem wise for the Committee to secure European viewpoints on the subject—even if only for the sake of encouraging reciprocal consideration of such matters.

With the world shrinking generation by generation as the result of improved communications and expanding world trade, and with now an encouraging outlook for eventual political and economic unity, it is time to think more seriously about the establishment of many standards which are global in scope.

Another development of the past month which makes such a suggestion timely is the intimation given by the U. S. Department of Commerce (before a group of industrialists which it called together in New York) that the establishment of practically all national business standards is to be put into the hands of the non-governmental American Standards Association. This move to broaden the activities of the ASA might be extended geographically.

Edwin L. Fowle

For Lower Belt Costs *plus* Maximum Machine Output



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Frequently, textile mills have secured real savings and lowered cost per yard of cloth through greater drive efficiency resulting from our engineering service. This service is based on sound practice — on experience gained by many years' specialization in the manufacture and application of leather belting.

TANNATE has outstanding endurance that results in a long lifetime of hard service with little maintenance needed to keep it in good running condition. It is exceptionally strong, much stronger and more flexible than most first quality oak belting. Its unusual flexibility and pulley grip assures greater power transmission and keeps machines producing at top speeds even when the load fluctuates. Tannate is resistant to moisture, machine oils and many weak chemicals. All these advantages go toward making Tannate the economical belt for textile mill service.

Why not call on us to help you secure lower transmission costs — increased production. Write us today. Also ask for a copy of our helpful pamphlet "Better Service Belt Hints."

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TRUCK-ENGINEERED AND TRUCK-BUILT BY TRUCK MEN

Meet Mr. Quality

ONE LOOK AT Bill Seebode — 50 year man at Allis-Chalmers Norwood Works — tells you that he sleeps well nights.

One reason is that he and hundreds of his fellow craftsmen at Allis-Chalmers have won *and are keeping* the confidence of engineers and operating men throughout American Industry.

That means a lot to veterans like Bill who've made a career of building great motors.

Bill's a stator-winder, as you can see—a living example of the truism that *men* make motors.

No machine known can assemble the maze of wiring and insulation that goes into a stator with his skill and care. No machine can fully test how *well* he's done his job.

There's only one test . . . wait 5, 10, 15 years and *see*.

And that's the test that has proved Allis-Chalmers motors are *great* motors. That's why you hear it said so often: *"You can depend on Allis-Chalmers Motors!"*

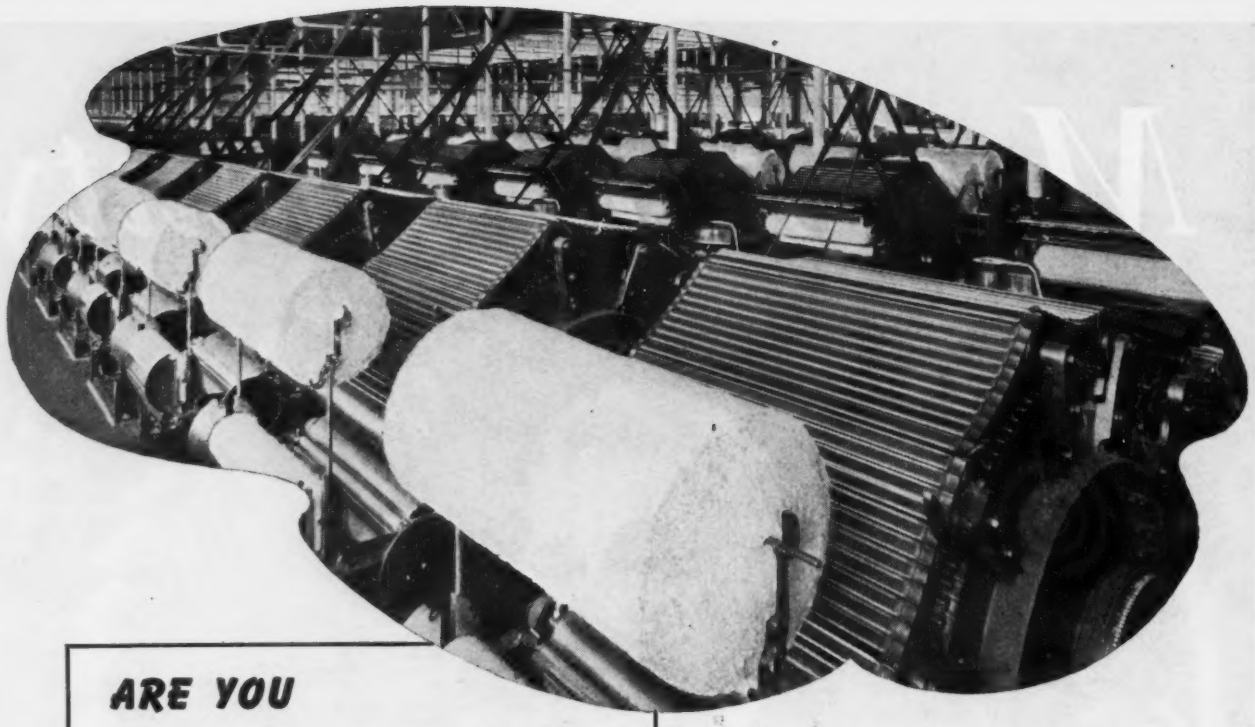
Yes, hundreds of Allis-Chalmers men—*quality* men like Bill Seebode — know they have a big personal stake in every Allis-Chalmers motor. When they build a great motor for you, they're making a friend . . . and they know that's something no company and its workers can have too many of. ALLIS-CHALMERS, MILWAUKEE 1, WISCONSIN.

• • •

♪ *Tune in the Boston Symphony, Blue Network, Saturday at 8:30 pm, EWT.*

A 1729

YOU CAN DEPEND ON ALLIS-CHALMERS MOTORS



ARE YOU SHORTHANDED?

Lack of help needn't interfere with your card production. Equipping your cards with the Saco-Lowell *Continuous* Card Stripper will enable you to assign your "Card Strippers" to more essential work.

The Saco-Lowell *Continuous* Card Stripper is a valuable investment, especially during these times, for it means that help ordinarily assigned to stripping cards can be used for other duties elsewhere in the card room. But the Saco-Lowell *Continuous* Card Stripper does more than save on help — it saves cotton, makes possible a better sliver, increases production as much as 2 per cent, insures a cleaner card room — and at the same time, earns a good return on your investment.

Even though your cards are equipped with other types of strippers, you will find it profitable to use the Saco-Lowell *Continuous* Card Stripper.

IT WILL SAVE YOU . . .

all the time lost in stripping the cylinders; most of the cotton lost as cylinder strips; the power required to operate high-duty vacuum pumps.

AND OF GREATEST IMPORTANCE . . .

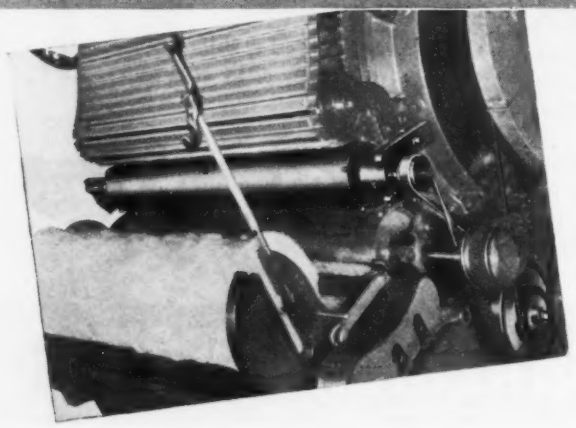
it will release from one to two men (now needed for stripping each 50 to 100 cards) for work elsewhere in the mill.

Write for catalog — and request also a Saco-Lowell survey. It will show you how you can earn as much as 80 per cent annually on your investment using Saco-Lowell *Continuous* Card Strippers.

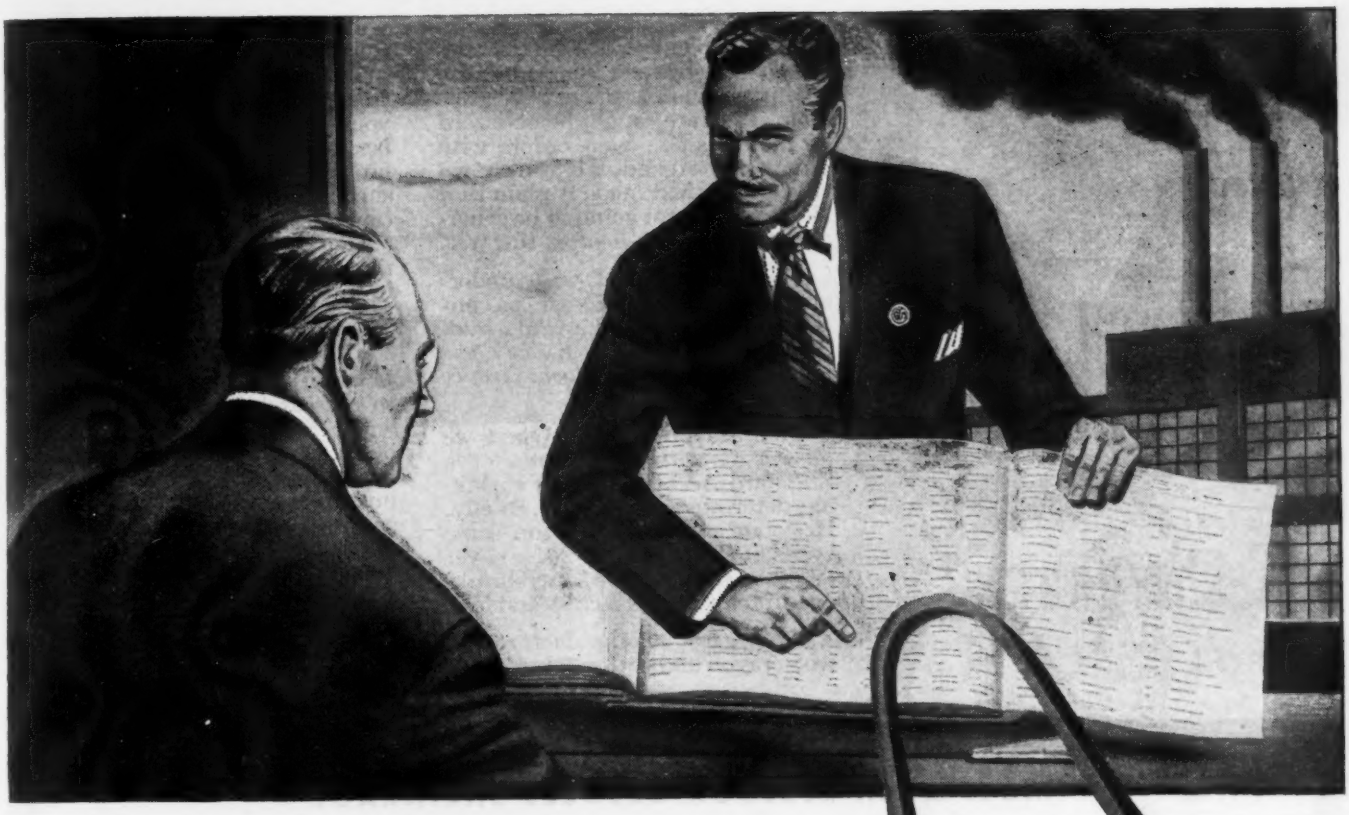
SACO-LOWELL SHOPS · **BOSTON, MASSACHUSETTS**

Charlotte *Greenville* *Atlanta*

SACO-LOWELL *Continuous* CARD STRIPPER



In mills equipped with the SACO-LOWELL Continuous Card Stripper, the cylinder is stripped at intervals ranging from 40 hours, when running low grade stock, to 200 hours, when running the better grades. The doffer is generally stripped every 8 hours without stopping the card. Since the surface of the cylinder is always clean with no waste packed between the wires, the sliver is generally cleaner and more uniform. Practically all of the cotton lost in the form of cylinder strips, a loss inherent in every other method of stripping, is recovered, except the extremely low percentage lost when the cylinder is stripped with the conventional brush just before grinding.



NO OTHER V-BELT CAN MATCH THESE RECORDS!

NOW you can see advance proof that Goodyear's great steel-cable V-Belt will save real money on your toughest drives that "eat up" ordinary belts. It's the performance data on more than 2,000 test sets of this super-tough belt on all types of drives—compiled by the G.T.M. (Goodyear Technical Man) for your information.

In it you'll see evidence that the Goodyear steel-cable V-Belt is successfully operating at belt speeds as slow as 38 F.P.M.—and as fast as 9,400 F.P.M. That it can be used in place of chain-drives, gears or flat belts, in some applications, with far greater efficiency. That it long outlasts conventional belts—that it doesn't stretch—that it withstands heat, shock loads and other severe operating hazards far better. That it gives superior service at lowest ultimate cost!

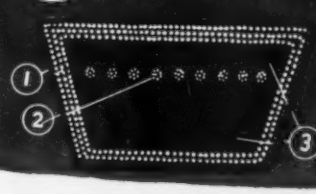
Those are just a few of the reasons why more than *TWO MILLION* of these revolutionary belts are now giving standout service on "killer" drives—both in war plants and on military equipment. Once you have tried them, you will want them on every tough V-drive. To bring the G.T.M. to your office with these convincing records, write Goodyear, Akron 16, Ohio, or Los Angeles 54, California—or phone the nearest Goodyear Industrial Rubber Products Distributor.

E.C. Cord—T.M. The Goodyear Tire & Rubber Company

ASK YOUR G.T.M. TO SHOW YOU THIS SERVICE DATA BOOK ON GOODYEAR STEEL-CABLE V-BELTS

GOODYEAR INDUSTRIAL RUBBER PRODUCTS

GTM -Specified STEEL-CABLE V-BELT for Multi-V drives



1. Heavy, super-tough black cover with uniform friction, longer life
2. Load-carrying, endless, steel cables in neutral plane
3. Tension and compression section of high-quality rubber

GOODYEAR

THE GREATEST NAME IN RUBBER

P.S. *For longest wear in cotton cord V-belts, specify Goodyear E. C. Cord Belts.*

exactly how much does RESLOOM cut shrinkage?

How eager the public is for "shrink-proof" woolens and other fabrics was demonstrated when Monsanto recently announced its new Resloom. We were caught in a blizzard of inquiries . . . even orders with checks enclosed, although we thought we had made it plain that Resloom was not going to be generally available until after the war.

The textile world was, understandably, a bit slower to enthuse. "Show us!" the trade said. And more precisely, "*Exactly how much does your Resloom reduce shrinkage?*"

That's a fair question and we answer it with the results of a Standard AATCC test for shrinkage determination (below). Briefly, Resloom cuts shrinkage on some types of fabric 80% to 90%, never less than 60%, and reduces shrinkage in many cases to 2% and less.

We suggest to manufacturers of wool, rayon and cotton fabrics that you look these figures over carefully, remembering (1) the public's intense interest in shrinkage control, (2) your postwar market, (3) your postwar competition. Remember, too, that the Resloom process provides advantages other than shrinkage control . . . wear-protection, crease-proofing, and stability . . . advantages that many in the trade consider fundamentally more important than shrinkage control alone.

* * *

In addition to Resloom, Monsanto's research laboratories are busy with—Syton for slip-proofing and delustering—Other developments for water-repellency, mildewproofing, wearproofing — vinyl acetal coatings and many other developments for better textiles. Watch Monsanto for the latest news in textile chemicals. MONSANTO CHEMICAL COMPANY, Textile Technical Service, Everett Station, Boston 49, Massachusetts.

HOW MUCH RESLOOM REDUCES SHRINKAGE

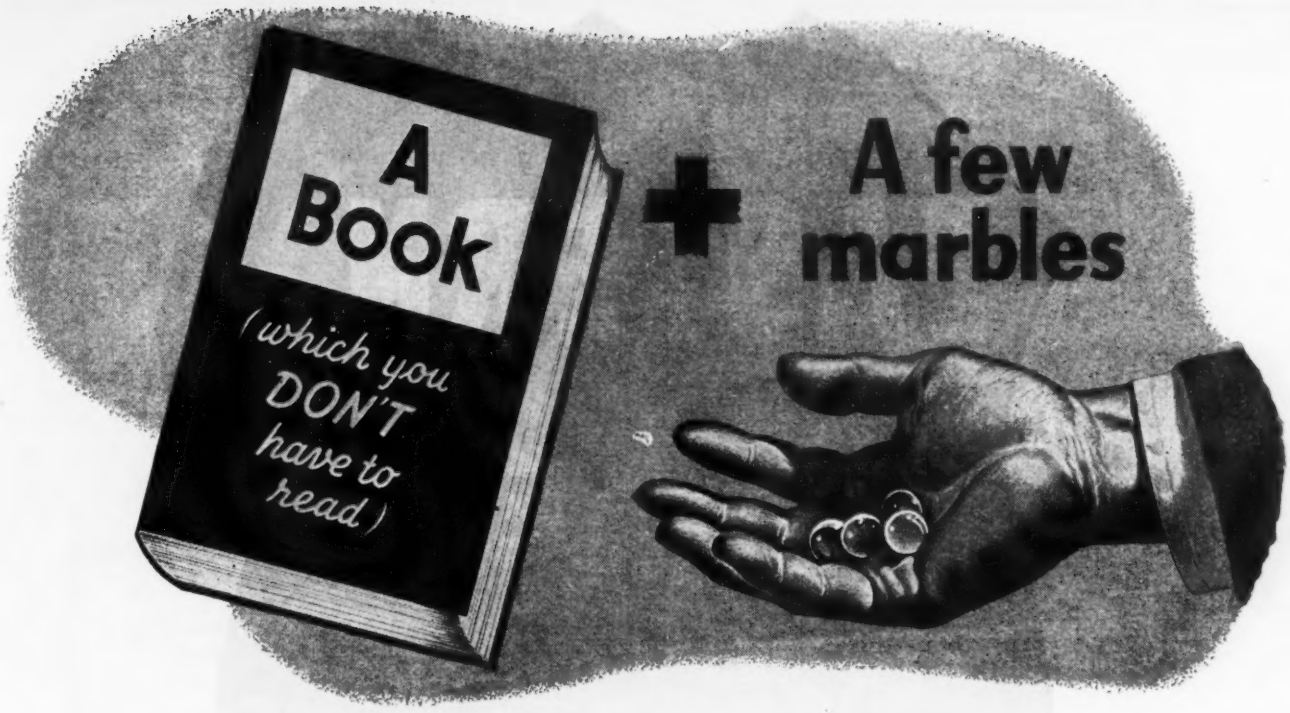
FABRIC	SHRINKAGE *Without* RESLOOM	SHRINKAGE *With* RESLOOM	PERCENTAGE REDUCTION	PERCENTAGE RESLOOM
Light Cotton Sheeting	6.74	1.09	82.3	5.2
Heavy Cotton Sheeting	5.58	1.17	79	4.8
Cotton Flannel	12.6	2.1	83.3	5.5
Cotton Lawn	3.4	0.8	76.4	4.3
All Spun Rayon	12.1	2.9	76	6.1
Filament Rayon	11.4	4.3	62.3	5.9
Cotton-Rayon-Wool Blanket	19.4	3.2	83.4	10.6
Cotton-Rayon Blanket	20.2	6.8	66.3	5.8
All Wool Challis	23.2	5.7	79	6.2
All Wool Flannel	30.1	4.1	86.6	10.8
All Wool Shirting	20.7	6.1	70	5.7
Wool-Rayon Shirting	24.2	4.8	80.1	12.8
All Wool Suiting	11.5	3.2	72.1	7.2
Cotton-Rayon Suiting	11.4	1.7	85	8.9

This official wash test is much more severe than fabrics normally would get, but like all "torture tests" it does reveal the best performance, and is especially valuable in making comparisons, as all samples were treated exactly alike. Also, note that the actual resin concentration was not necessarily the optimum, hence the shrinkage control might be even better in some cases.

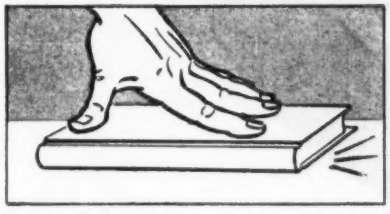
This table is taken from article appearing in "Industrial & Engineering Chemistry," Feb. 1945, by D. H. Powers, Monsanto Chemical Company.

The Textile
SERVING ∧ INDUSTRY . . . WHICH SERVES MANKIND

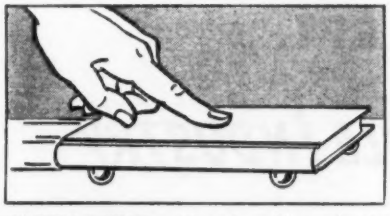
MONSANTO
CHEMICALS AND PLASTICS



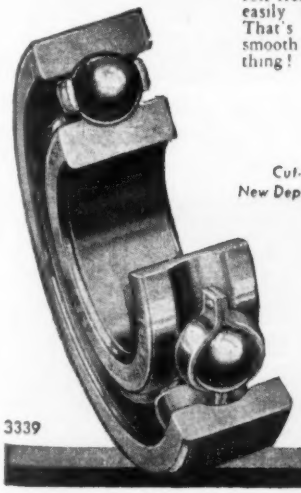
tells the WHY of Ball Bearings



TRY THIS: Place a book on your desk and your hand firmly on it. Then try to push the book across the desk. That's the principle of *sliding motion*—hard on book, desk and energy.



THEN THIS: Place 4 marbles under the book, your hand on top—and push. The marbles roll freely, the book moves easily in any direction. That's *rolling motion*—smooth and easy on everything!



Cut-away view of New Departure Ball Bearing

There is a simple, fundamental truth in the principle of the ball bearing: "Nothing Rolls Like a Ball!"

The ball possesses inherent advantages unequalled by any other rolling body. There are no *ends* to a ball—so its axis of rotation need never be artificially fixed.

Thus, a *Ball* bearing bears the loads on a circle of *free rolling* steel balls, reducing friction and wear, maintaining precise location of parts and cutting maintenance time—as does no other type bearing.

That is why over 300 million New Departure Ball Bearings are at work in this war. *That* is why designers of peace-time machinery are designing more ball bearings into their machinery than ever before.

There is really no substitute for the ball bearing—nor any substitute for the technical experience and creative engineering that go into New Departure Ball Bearings.

Ask for your free copy of "Why Anti-friction Bearings?"

nothing rolls like a ball

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BALL BEARINGS

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EASTERN STAINLESS STEEL CORP.

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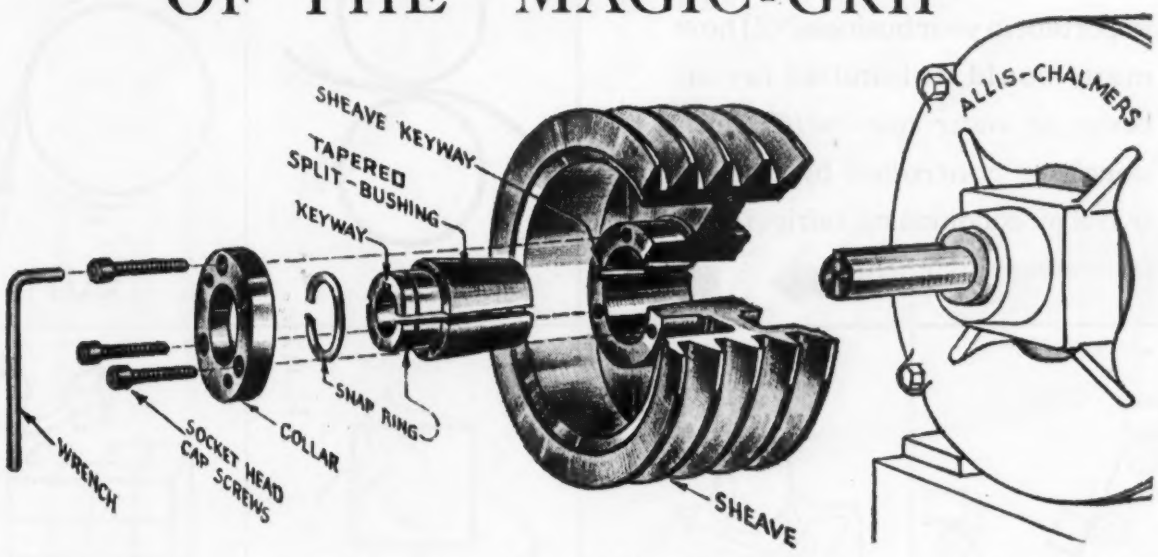
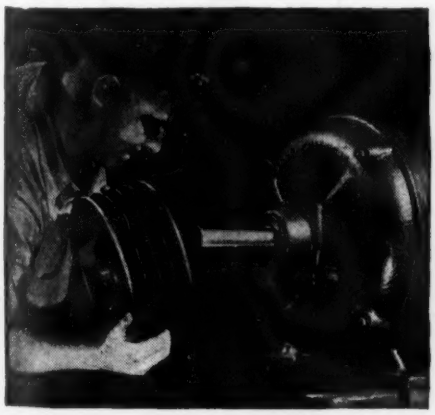
Here's the Secret

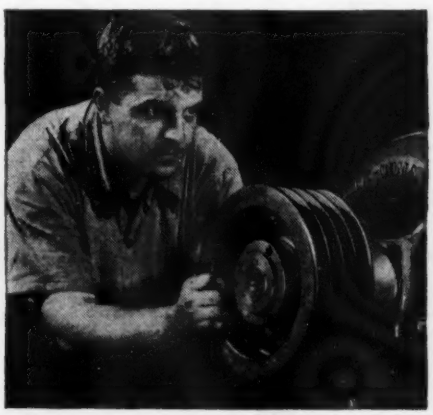
OF THE "MAGIC-GRIP"



Exploded view shows why Allis-Chalmers' new "Magic-Grip" Sheave goes on *as a unit in 3 easy steps.* It's the fastest mounting sheave on the market—at no extra cost.



1 Place sheave on shaft. Slides on smoothly because clearance is provided by expanded bushing. There's *no* hammering — *no* forcing! Complete sheave and bushing unit comes intact—ready for quick, easy mounting.



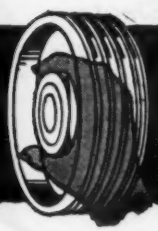
2 Slide to desired position. Sliding easily, sheave can be placed *exactly* according to straight-edge . . . giving you true alignment with resulting smooth performance. A minimum of time is required.

3 Tighten three capscrews — and it's ready to go! Entire sheave is locked securely to shaft and *grips like magic!* No set screws to damage shaft. Send for Bulletin B6310. Allis-Chalmers, Milwaukee 1, Wis.

A 1764

Allis-Chalmers Texrope

"MAGIC-GRIP"



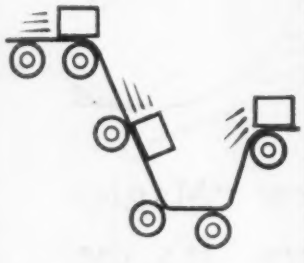
SHEAVES

How many in YOUR BUSINESS?

Two questions: (1) how many of these ten simplified operations are important in your business? (2) how many could be handled faster, better, at lower cost—*with temperature controlled* by application of air conditioning, refrigeration or heating equipment?

ROLL

CUT

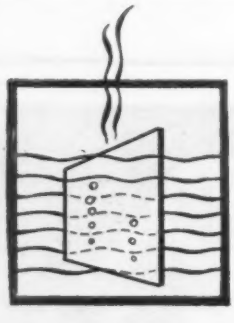


CONVEY

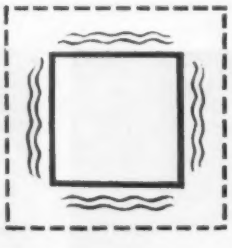
QUENCH

WASH

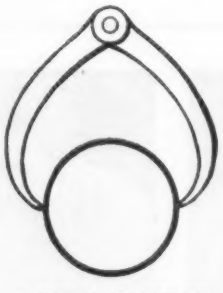
STORE



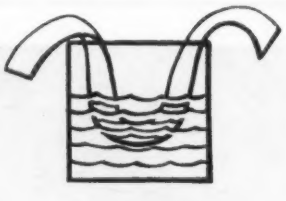
PLATE



SHRINK



MEASURE



DRY

If the problem involves HEATING or COOLING

. . . get the advice of General Electric *now*, by writing *General Electric Co., Air Conditioning and Commercial Refrigeration Divisions, Section 452, Bloomfield, N. J.*

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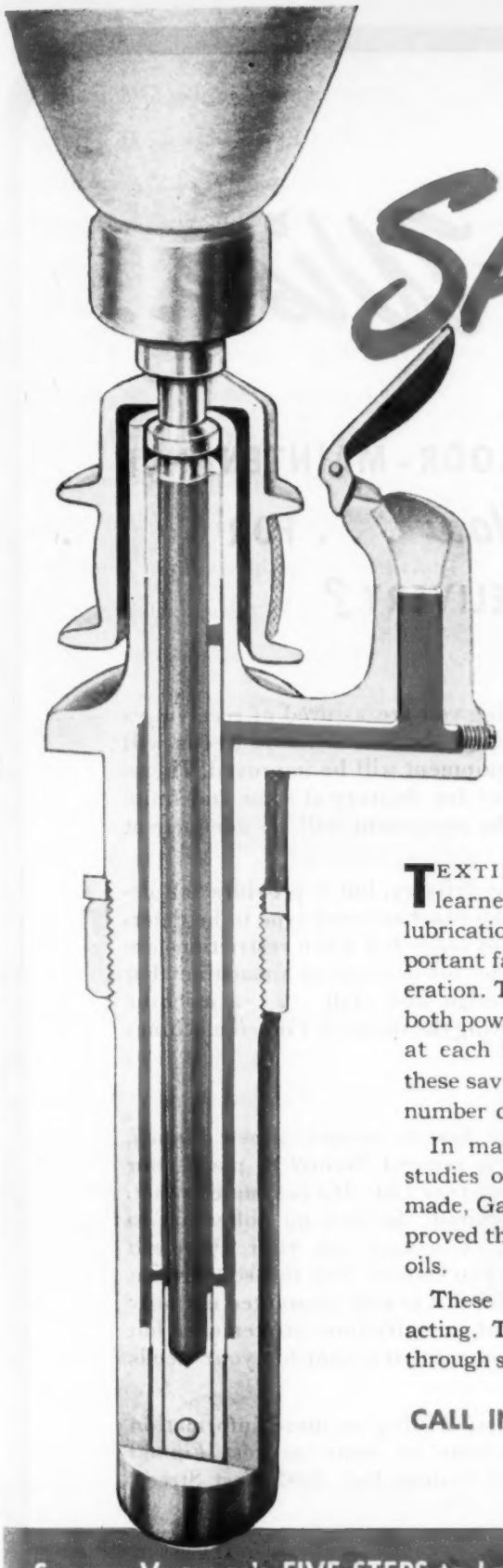
Tune in: "The G-E HOUSE PARTY," every afternoon Monday through Friday, 4 p. m., E W T, C B S . . . "The G-E ALL-GIRL ORCHESTRA," Sundays 10 p. m., E W T, N B C . . . "THE WORLD TODAY," News, Monday through Friday, 6:45 p. m., E W T, C B S



Add up your SAVINGS FROM EACH SPINDLE!

TEXTILE OPERATORS have learned that correct spindle lubrication is one of the most important factors of efficient mill operation. The right spindle oils save both power and maintenance costs at each individual spindle, and these savings are multiplied by the number of spindles in your mill.

In many mills, where careful studies of spindle oils have been made, Gargoyle Velocite Oils have proved their superiority over other oils.

These famous oils are quick-acting. They distribute instantly through small clearances, and form strong films that resist rupture and reduce running friction. Yes, and they also resist the formation of gummy deposits that cause "spindle drag."

Power loss is minimized. Maintenance is reduced, production kept steady at high levels. Ultimate lubrication cost is lower.

All of this happens at every spindle and adds up to significant savings for your entire mill.

SOCONY-VACUUM OIL CO., INC.
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CALL IN SOCONY-VACUUM FOR COMPLETE LUBRICATION

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2. Lubrication Schedules and Controls
3. Lubricant Storage and Handling System
4. Skilled Engineering Counsel
5. Progress Reports of Benefits Secured

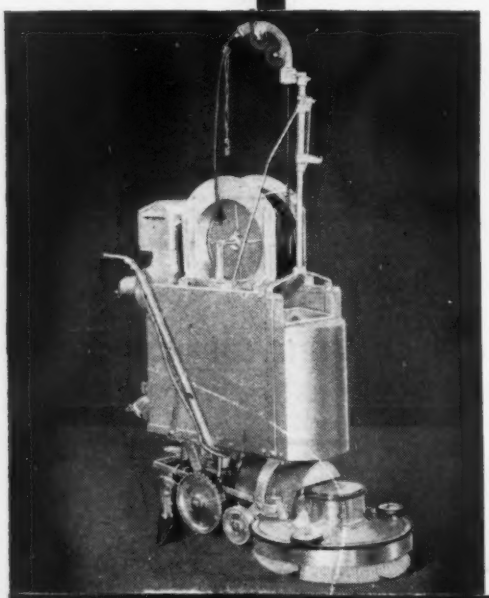
GARGOYLE Lubricants

Is It Wise..

TO ORDER FLOOR-MAINTENANCE MACHINES *Now* . . . FOR POST-WAR DELIVERY?

The answer is *yes, if*—if in so doing you are assured of receiving a machine that will meet your needs *at the time delivery.* Needs will vary between now and then . . . equipment will be improved. Therefore, when placing your order today for delivery at some indefinite date, you'll want to be sure that the equipment will be adequate at the time of receipt.

The *Finnell Plan* is one of rotation delivery, but it provides for delivery of a *Job-Fitted Finnell* . . . the exact size and type to be determined by a survey of your floors *not today* but when restrictions are lifted. And the *Finnell Plan* provides for delivery of a machine that is *the last word* in engineering design and skill . . . a machine embodying improvements made during the interval. *Finnell* machines are improved constantly!



To be among the first to receive a new *Finnell,* all you need do is request *Finnell* to place your name on their *Preferred List.* It's as simple as that. No deposit is required. In fact, no obligation to buy is incurred. You may use your *Preferred Listing* or not, as you choose. But the sooner you ask for it the better—it is your guarantee not only of early delivery when restrictions are removed but of receiving equipment that's *right* for your needs at the time.

For your *Preferred Listing* or more information and literature, phone or write nearest *Finnell* branch or Finnell System, Inc., 1902 East Street, Elkhart, Indiana.

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BRANCHES IN ALL PRINCIPAL CITIES

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the color achievement of the month

Hit for a Miss

BY ARLINGTON MILLS

"Romper Red" adds sales appeal to these jumper dresses for Junior Misses, "every bit as smart as Big Sister's." To Arlington Mills—famous for "Naphthalated" Wools — our sincere congratulations! Color is making news for many a fashion leader this year . . . and Sandoz developments have been useful to textile leaders in their constant effort to reduce costs while improving quality. Sandoz' *Brilliant Alizarine Milling Colors*, for instance, have been particularly useful, when exceptional quality is desired. Among them, *Brilliant Alizarine Milling Blue BL*, patented, is now recognized as the only acid blue on the market

which combines fastness to light *and* fulling to such an unusual degree. You too may profit by coming to Sandoz for acid, chrome and direct dyes, as well as auxiliary chemicals for all natural and synthetic fibres. In auxiliaries, for instance, the greater stability of Sandoz' *Cerol TGI* now makes it possible to combine water- and mildew-proofing operations without risk of reprocessing. For other advantages of *Cerol TGI*, write us.

Applications laboratories in New York, Boston, Philadelphia, Charlotte, Los Angeles, Toronto — with stocks in those cities. Other branches in Chicago, Paterson and Providence.

SANDOZ CHEMICAL WORKS, INC.
61 Van Dam Street, New York 13, N. Y.

SANDOZ *thinks ahead with textiles*

S SANDOZ

BETTER KNITTING CONES AND LOWEST MAINTENANCE?

Major credit for the success of the Roto-Coner* is due the patented Rotary Traverse, shown at the right.

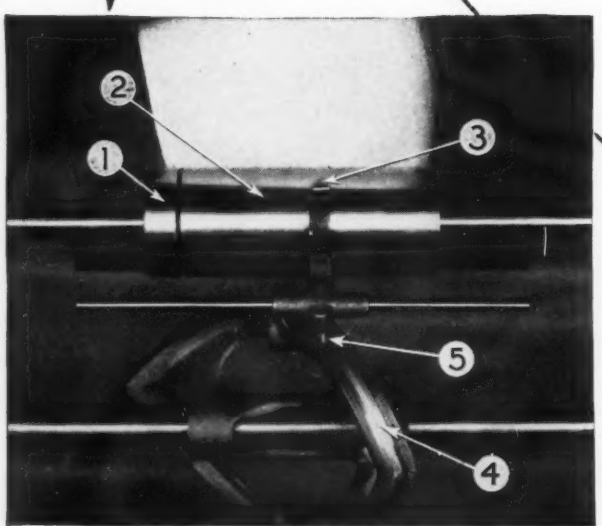
This one-piece combination driving drum and traverse guide improves cone quality because it eliminates the major causes of trouble at the knitting machine. It lowers maintenance costs because it takes the place of parts which are fast-wearing and difficult to keep in adjustment. (The Rotary Traverse needs no adjustment.)

A new edition of Bulletin 144, containing additional information, is now available. Write us for a copy.

*Reg. U. S. Pat. Off.

Universal Winding Company

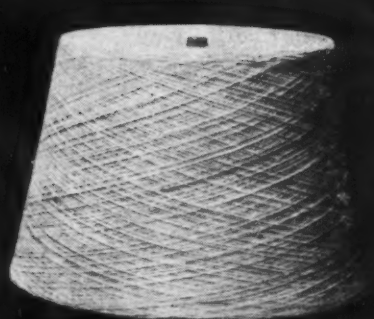
PROVIDENCE BOSTON UTICA PHILADELPHIA
CHARLOTTE ATLANTA



These are the parts which cause the troubles which the Roto-Coner* eliminates: (1) the slip drum, responsible for nipping the yarn and causing roll cuts . . . (2) the driving drum, whose speed is limited by the safe operating limit of the cam . . . (3) the traverse guide, which tends to chafe the yarn . . . (4) the cam, which must be regularly greased . . . (5) the cam roll which needs frequent replacement, else it will wear out the more expensive cam.

This is the Rotary Traverse which takes the place of all the parts shown left. It revolves at high speed**, in the same direction the yarn is traveling, gently guiding the yarn onto the package without chafing. The groove arrangement is standard for all yarn sizes, giving the desirable *minimum* number of winds. It never needs greasing or adjustment . . . is always uniform for all spindles . . . and is virtually good for the life of the machine. Plastic for cotton yarns, cast-iron for spun rayon and other yarns.

**550 YPM for paper coning 23-4-8



ROTO-CONER*

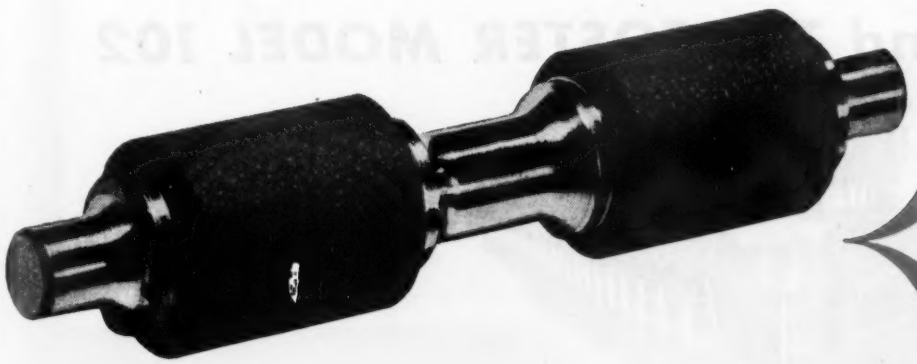
LEESONA REG. U.S. PAT. OFF.

Open-Wind Cones for Knitting

WARPING CONES • DYEING PACKAGES • PARALLEL TUBES FOR TWISTING

THIS IMPROVED SYNTHETIC COT *insures*

BETTER DRAFTING



RESULTS in hundreds of mills prove conclusively that Armstrong's Accotex NC-727 Cots draft better than "straight" synthetic rubber cots. The reason for their exceptionally good performance is that Accotex Cots are made with synthetic rubber *and* cork.

The cork content makes Accotex Cots highly resistant to "slicking up"—helps them retain their grip longer than other types of synthetics. This extra long-lasting grip helps Accotex Cots reduce eyebrowing as well as provide better drafting.

Better drafting and reduced eyebrowing are only two of eight important advantages offered by Armstrong's Accotex Cots. Check over the list at the right, and you'll see why more and more mills are changing over to Accotex Cots.

Ask your Armstrong representative for samples, prices, and complete information about Armstrong's Accotex Cots and Accotex Aprons. Or write Armstrong Cork Company, Textile Products Department, 8302 Arch Street, Lancaster, Pennsylvania.

NO OTHER SYNTHETIC COT OFFERS ALL THESE ADVANTAGES

1. GOOD DRAFTING — Accotex Cots retain their excellent grip because they resist slicking.

2. REDUCED EYEBROWING—The resistance to slicking minimizes eyebrowing.

3. LONG SERVICE—Accotex Cots are tough. And they can be re-buffed 3 or 4 times.

4. REDUCED LAPPING—Accotex Cots have little affinity for textile fibers and are non-sweating.

5. GOOD START-UP — Accotex Cots are non-thermoplastic and resist flattening.

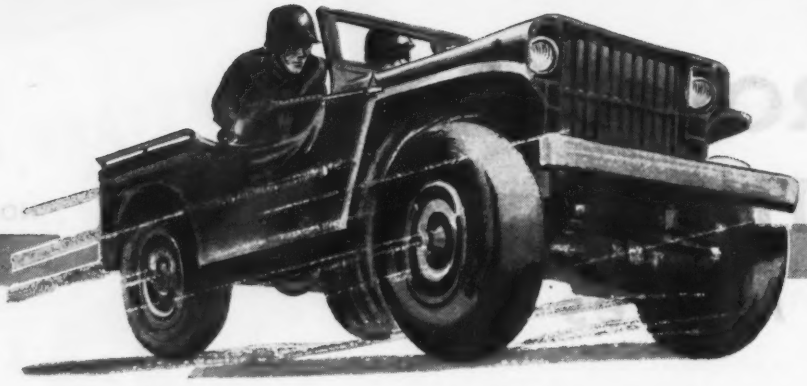
6. SOLVENT RESISTANCE—Accotex Cots are not affected by oil, water, dyes, or textile solvents.

7. SEAMLESS CONSTRUCTION—Accotex Cots have no seams—can't break open in service.

8. QUICK ASSEMBLY — Accotex Cots are ready glued.

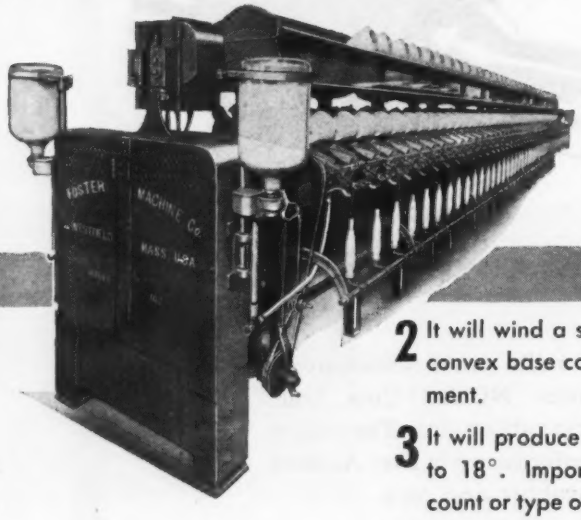
ARMSTRONG'S ACCOTEX COTS

CORK COTS • ACCOTEX APRONS



Chosen for Durability...Famous for Flexibility

THE JEEP *and The* FOSTER MODEL 102



Small, durable, capable of doing dozens of war-time jobs and with a definite peacetime future, the jeep's economy is self-evident.

Equally obvious is the present and future economy of the Foster Model 102. A definite labor saver — the Model 102 is easy to operate and to adjust (no special training necessary). Furthermore, this machine today gives twice the production with one-third less cost as compared with older models, and in addition, is assuring users famous Model 102's 7-way flexibility as follows:

1 It will wind any kind and any count of yarn from fine-combed cotton or spun rayon for tropical fabrics to heavy wool yarns for arctic cloths.

2 It will wind a straight base cone for warping or a convex base cone for knitting with a simple adjustment.

3 It will produce 9 different angles of wind from 9° to 18°. Important if you radically change your count or type of yarn.

4 It will wind package dyed yarn, even if damp. No jumping out of guides.

5 It will wind emulsion treated yarn. In fact, it is frequently equipped with an emulsion attachment.

6 Changeovers from cones to tubes, or vice versa, are comparatively inexpensive.

7 One side can wind cones and the other tubes, if desired.

FOSTER MACHINE COMPANY
WESTFIELD, MASS.

SOUTHERN OFFICE: JOHNSTON BLDG., CHARLOTTE, N. C.
Canadian Rep. Ross Whitehead & Co., Ltd., Universal Tower Bldg., 660 Ste. Catherine St., West, Montreal, Quebec

FOSTER MODEL 102

FOR WINDING COTTON • WOOL • WORSTED • MERINO • MERCERIZED • SPUN SILK AND SPUN RAYON YARNS

Sell from Sample

Selling from a sample is old stuff . . . is that what you're thinking? Well, here's a "selling from sample" idea that's just sprouting. We are sure that age will never cripple its effectiveness. It hinges on H & D "Prepak*"—the packaging idea that brings merchandise to retail outlets, packed one sales unit to the box. A sample is displayed. When a sale is completed, the customer's purchase is delivered directly from stock that hasn't been sitting on sales floors, counters or shelves, collecting dust and dirt.

H&D Post-War Packaging Idea

"PREPAK"

"Prepak" helps manufacturers package their products for greater safety in shipment; helps retailers to achieve better store handling service and to reduce over-all packaging costs; provides customers with factory-fresh merchandise. We can tell you what happens when you apply this idea to your products. Send for your copy of "Behind The Scenes at the H & D Package Laboratory" today.

*T. M. REG. U. S. PAT. OFF.

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AUTHORITY ON PACKAGING

THE HINDE & DAUCH PAPER COMPANY, 4530 DECATUR STREET, SANDUSKY, OHIO

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... that's *Tufferized* Card Clothing

Careful as it might be, no "before-school" inspection by mother could ever match the thorough work of Tuffer inspectors. Every day Tuffer inspectors make certain that *50 million points* of card clothing wire are uniform and ready to give you efficient, unvarying carding!

From foundation to the final inspection, *master craftsmen* are responsible for the making of Tuffer Card Clothing!

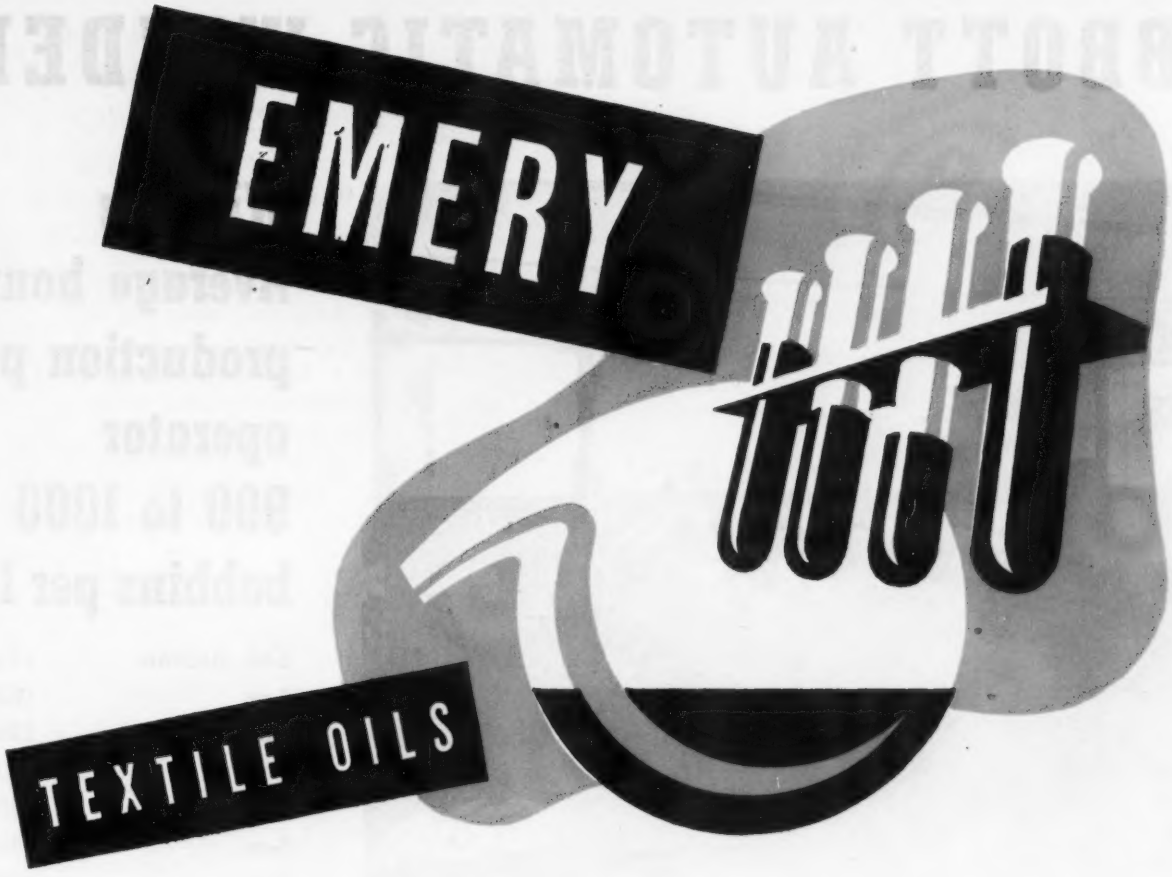
Card Clothing for Woolen, Worsted, Cotton, Asbestos, and Silk Cards—Napper Clothing, Brush Clothing, Strickles, Emery Fillets Top Flats Recovered and extra sets loaned at all plants—Lickerins and Garnett Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant—Midgley Patented Hand Stripping Cards, Howard's Special Hand Stripping Cards and Inserted-Eye and Regular Wire Heddles.

TUFFER

HOWARD BROS. MFG. CO.

WORCESTER, MASSACHUSETTS

Southern Plants: Atlanta, Ga. Gastonia, N. C. **Branch Offices:** Philadelphia, Austin **Canadian Agents:** Colwool Accessories, Ltd., Toronto 2



Textile oils really have several jobs to do. They must lubricate stocks, store well on finished yarns, and scour off easily without the use of harsh alkalies. Moreover, good textile oils assist all the processing operations and prevent corrosion of intricate machine parts.

Emery's research chemists have developed many textile oils which fulfill all of these expectations of textile manufacturers. These include many grades of red oil (oleic acid) and many special purpose oils, too.

Typical of these special developments are the Twitchell oils, 3X and 304, for sanforized finishes on cotton fabrics. Both possess superior wetting and lubricating qualities, are noncorrosive, and mix very satisfactorily with practically all grades of starches and other materials used in cotton finishes. They are nonoxidizing and do not cause yellowing or rancidity.

Another typical development is the group of oils used in the production of rayon yarns . . . oils 681 and 685. These oils, used to lubricate the yarn, are self-emulsifying, can be removed with very light scouring, and insure uniform dyeing and bleaching.

Emery's red oils, both distilled and saponified, and other textile oils are produced over a wide range of specifications. Let us know your specific requirements because we would like to recommend the grade most suitable for the best results and the greatest economy. We will gladly send you samples on request and can make prompt delivery of all grades.

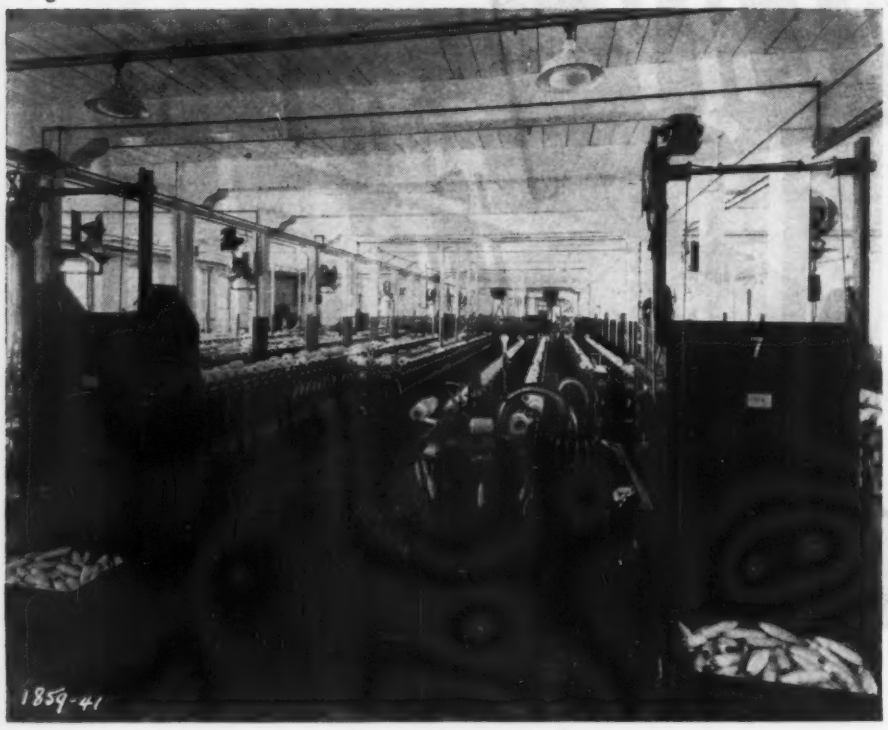
EMERY INDUSTRIES · INC.

4300 Carew Tower · Cincinnati 2, Ohio

Branch Offices: New York, N. Y. . . . . Philadelphia, Pa. . . . . Lowell, Mass.

PLASTICIZERS . . . STEARIC, OLEIC, ANIMAL, VEGETABLE AND FISH OIL FATTY ACIDS . . . TWITCHELL PRODUCTS

ABBOTT AUTOMATIC WINDERS



Winding Average hourly production per operator

900 to 1000 bobbins per hour

2-oz.	Bobbin	.....	112 lb. hr.
3-oz.	"	.....	169 " "
4-oz.	"	.....	224 " "
5-oz.	"	.....	280 " "
6-oz.	"	.....	338 " "
7-oz.	"	.....	380 " "
8-oz.	"	.....	448 " "

These production figures are being obtained in mills throughout the United States and Canada, and show the lowest direct labor cost of winding.

In addition there is a great saving in floor labor to supply the winders with spinning bobbins and remove wound cones or cheeses.

Supply bobbins are dumped by the doffers into a box at floor level. A lever is pushed and the box is lifted and dumped automatically into a big hopper. These are large enough to eliminate any other storage of yarn. There is no trucking of yarn up and down winder alleys and distributing it along the machines. It is all fed in at one point. Similarly cones are all doffed at end of winder, and move directly into warper creels or to twisters or automatic quillers.

ABBOTT MACHINE COMPANY

WILTON, N. H.

Southern Representative, Mr. L. S. Ligon, Greenville, S. C.

PHENOMENAL FIGURES OF SUCCESS
WITH DAYCO ROLL COVERINGS
A mill tried various roll coverings. 400 of one covering lasted 2 weeks. Another, one day. Still another wouldn't run at all.
Daycos were installed. The original installation made 4 years ago is still in operation without a single replacement. They ran 18 months before rebuffing was necessary.
EXTRA TOUGH SURFACE
IMPROVES DRAFTING,
HAS DOWNRIGHT
AMAZING LONG LIFE!

Greater uniformity of yarn and increased production *both* now result from the use of Dayco Roll Coverings.

Drafting is much better. Daycos ideal cushion means far less ends down. Their surface *retains exactly* the *right* coefficient of friction . . . unaffected by humidity changes or extremes . . . throughout an exceedingly long life.

Yet that surface is so tough it never grooves, never hollows out, flattens or distorts. It has no cold flow. And, since Daycos excellent cushion is static-free, lapping-up is practically unknown. So from precise cost-accounting records, *the cost per hour of operation with Dayco Roll Coverings is unqualifiedly less!*

Check all 12 advantages you get from Dayco Roll Coverings. See for yourself how Dayton's Technical Excellence and its years of specialized textile experience will help you, too. Get the *facts.* Write . . . wire . . . *today!*

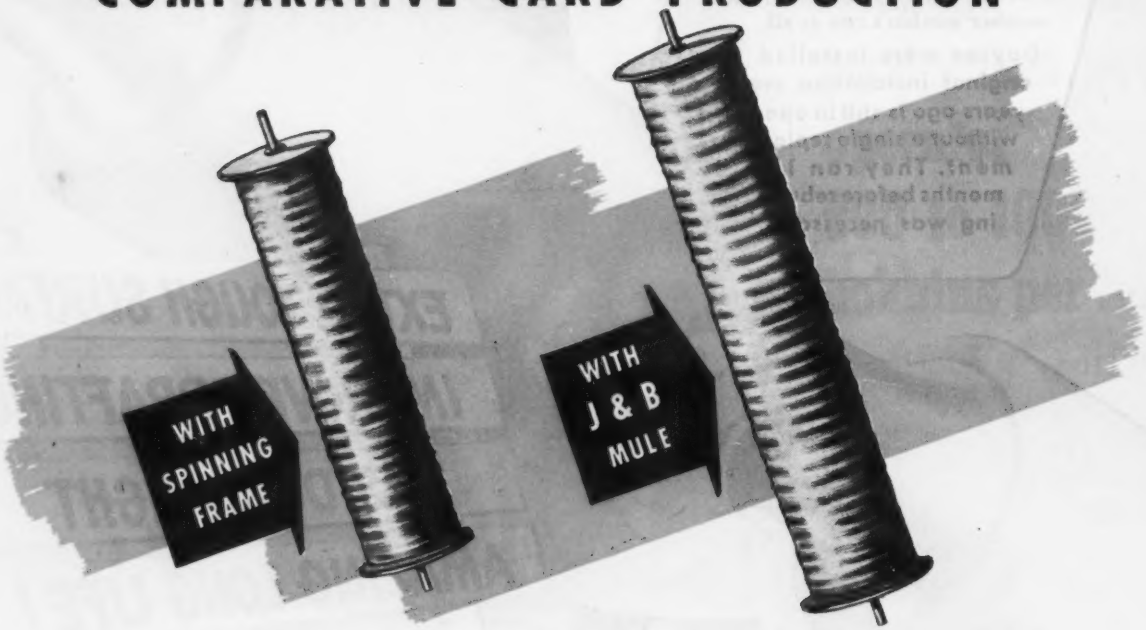
THE DAYTON RUBBER MFG. COMPANY
Famous Dayco Synthetic Rubber Products Since 1934
Dayton 1, Ohio Waynesville, N. C.
Main Sales Office:
Woodside Building, Greenville, S. C.
KEEP ON BUYING WAR BONDS

MAKE THESE 12 ADVANTAGES YOURS
Improved drafting . . . No grooving, less ends down . . . Unaffected by temperature changes . . . Lower net roll costs . . . Long service life . . . Easy to apply . . . Proper cushioning . . . Not affected by hard ends . . . Static free . . . Oil resisting . . . One-piece tubular construction . . . Produces more uniform yarn.

Roll Coverings by
Dayton Rubber
The Mark Of Technical Excellence in Synthetic Rubber

JOHNSON & BASSETT

COMPARATIVE CARD PRODUCTION



THEY INCREASE PRODUCTION AT THE CARD UP TO 20%

That's because they will handle a much coarser roving than any spinning frame.

12 MORE REASONS

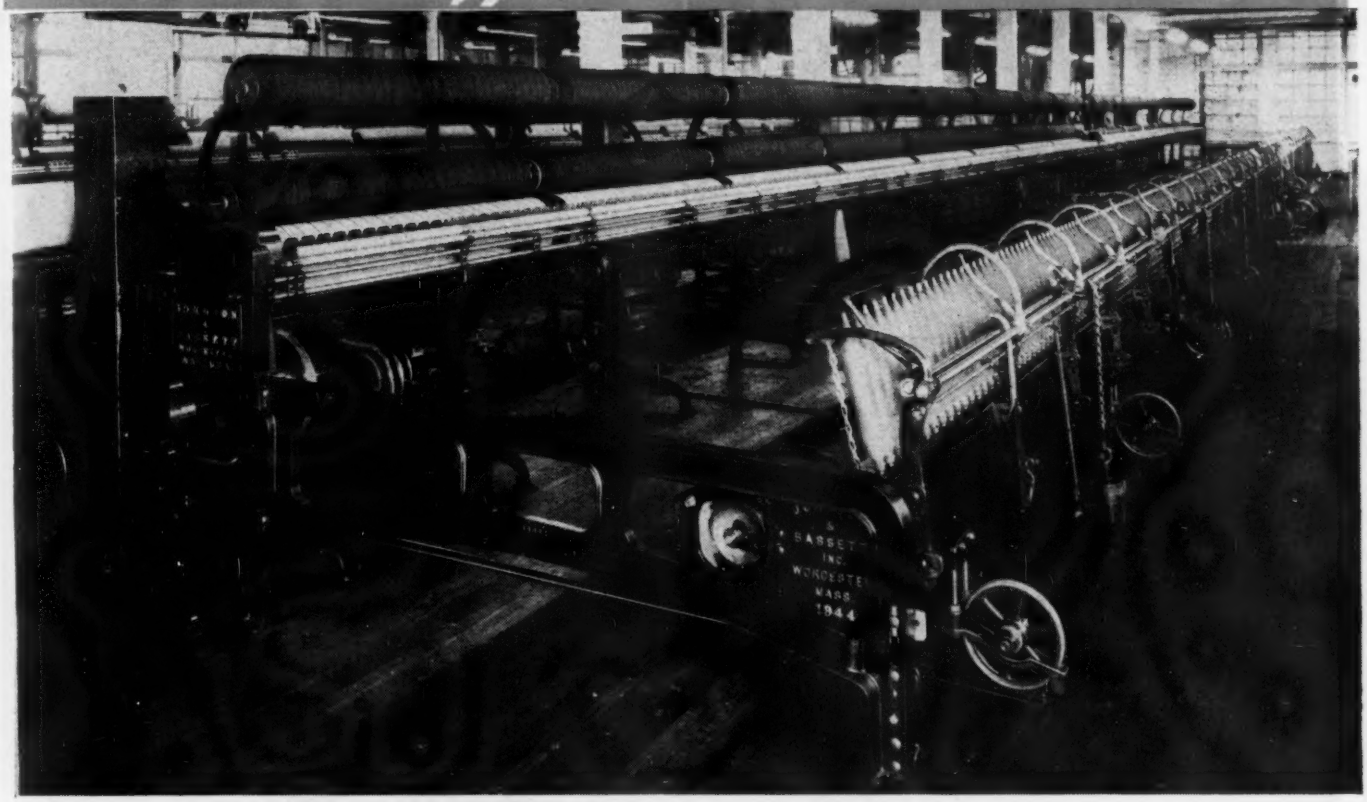
Why J & B Mules are the Answer to Your Wool Spinning Problem:

1. The J & B Mule produces a true woolen yarn — superior in strength, elacticity, loftiness, roundness and uniformity of size and twist to that produced by frame spinning.
2. It permits inspection of the thread.
3. It will successfully spin short staple roving which will not hold together on a frame.
4. It requires less horse power than a frame.
5. Spindle for spindle, it will produce as much yarn as a frame, due to a practical operating speed and negligible breakage.
6. The cost of the yarn produced is at least ½ that of yarn produced on a frame.
7. Its initial cost is several times less than that of frames with equal production.
8. Its cost of upkeep is exceptionally low.
9. The J & B filling package does not require rewinding for an automatic loom.
10. Changes for spinning different types of yarn on the J & B Mule are easily and quickly made.
11. Mule bobbins cost less than frame bobbins.
12. The J & B Mule requires less floor space per lb. of yarn produced than other methods of wool spinning.

JOHNSON & BASSETT, INC.

ESTABLISHED IN 1870

Modernized MULES



A LONGER DRAFTING ZONE —

— that's why the J & B Mule will handle a coarser roving than any frame. A frame has only 12″ to 18″ for draft, while the J & B Mule has about 74″ (see illustration above).

The J & B Mule also does a MORE EVEN job of drafting because it does a limited amount of twisting while it drafts; the twist enters the thin places first, slowing up the draft at those points until the thicker portions of the roving are reduced in size.

LET US RECOMMEND AN INSTALLATION — Tell us your production requirements, including kind of stock, amount of warp and filling required per day, present equipment and production and what is to be replaced — and J & B engineers will recommend an installation that will pay for itself in a surprisingly short time.

Worcester, Mass., U.S.A.

A Recent Installation of Four SARGENT STOCK DRYERS
in a Progressive New England Worsted Mill

A Production Problem Solved -

• • • THIS IS THE IMPORTANT FACT!

Advantages of this modern installation

— Stock dried at lower temperatures — The use of low pressure steam
— Lower power consumption — Less floor space required
— Costly repairs and breakdowns eliminated — A better product

Why not let SARGENT solve your Drying troubles?

Important Defense Items by SARGENT	Machines for Smokeless Powder Plants • Machines for Synthetic Rubber Plants • Textile Machinery for the manufacture of uniforms • Machined parts for large caliber guns

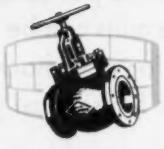
C. G. SARGENT'S SONS CORPORATION

Graniteville, Massachusetts, U.S.A.

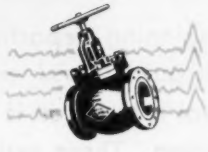
JENKINS *Pioneering*

HERE'S WHERE THESE VALVES CAN SAVE FOR YOU

WHERE external fire hazards threaten valves with abnormal heating and sudden cooling that might crack other valves.



WHERE conduction of hazardous liquids or gases, as in petroleum or chemical services, requires valves of exceptional toughness.



WHERE vibration, shock, or water hammer, individually or in combination, would break valves of other metals.

WHERE a higher corrosion resistance is essential, as in mine, chemical, marine, petroleum and similar services.

WHERE valves are subjected to freezing, or sudden and extreme variations of temperature are a condition of service.

WHERE valves are exposed to destructive atmospheric conditions, such as salt air or corrosive fumes from acids or chemical solutions.

provides a much-needed New Valve for war-burdened industry

Leading again in the drive for greater valve economy, Jenkins introduced the *Air Furnace* Malleable Iron Valve over a year ago.

Developed for certain "tough spots" where shock and strain run up abnormally high repair and replacement costs, these new valves have provided savings well beyond original estimates in many industries. By lasting longer, and requiring less attention, they help materially to conserve valves, and spread scarce maintenance man-hours further.

Next time you order valves for use *where steam pressure does not exceed 150 lbs., and where temperature is not above 450°F.*, check service conditions closely. If the valves must "take a beating", for any of the reasons listed at left, consider Jenkins *Air Furnace* Malleable Iron Valves.

Air Furnace MALLEABLE IRON VALVES

approved and used in these industries

Petroleum • Metal and Coal Mining • Chemical • Paper Synthetic Rubber • Food • Cement • Process Industries Power Plants • Marine • and many other fields where valves are subjected to unusual strains, vibration and destructive service conditions such as those described.

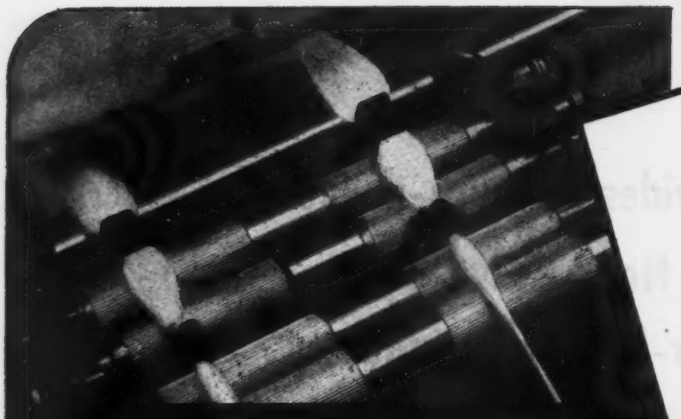
Write for Bulletin No. 192 describing this complete line, in many patterns, sizes 2 in. to 6 in. Write to Jenkins Bros., 80 White Street, New York 13, N. Y. Bridgeport, Conn.; Atlanta; Boston; Philadelphia; Chicago. Jenkins Bros., Ltd., Montreal; London.

JENKINS VALVES

SINCE 1864

For every Industrial, Engineering, Marine and Commercial Service . . . In Bronze, Iron, Cast Steel and Corrosion-resisting Alloys . . 125 to 600 lbs. pressure

Sold Through Reliable Industrial Distributors Everywhere



H & B 4-ROLL HIGH-DRAFT ROVING SYSTEM
WITH PATENTED SCROLL CONDENSER

H & B 5-ROLL HIGH-DRAFT ROVING SYSTEM
WITH PATENTED SCROLL CONDENSER

H & B 4-ROLL HIGH-DRAFT SPINNING SYSTEM

PUT THESE *on Your Victory List*

WHEN victory comes many mills will have to replace worn out equipment. Others will have to modernize, regardless of the condition of their equipment, in order to put costs on a competitive basis. Not all these mills can be taken care of at once. The demand for new machinery will be greater than the supply for several years.

Start a "victory list" now of the new equipment you will need and consult with us regarding your requirements so we can put you on our victory list.

A good way to put your spinning department on an efficient, low cost basis quickly and with a comparatively small investment is to install H & B High-Draft Roving and Spinning. These systems can be supplied complete with new frames or can be adapted to any make of standard frame. Change over installations require a relatively short time and the cost is surprisingly low.

Upkeep and maintenance are also low because the systems are SIMPLE, — no belts, easy to clean, easy to operate and readily adjusted, while the quality of the product equals that of any other system on the market.

Power savings will also be important, because of the great reduction in the number of spindles required.

Ask our nearest representative to call.

H & B AMERICAN MACHINE COMPANY

PLANT AT PAWTUCKET, RHODE ISLAND

BOSTON OFFICE: 161 Devonshire St.: ATLANTA OFFICE: 815 Citizens & Southern National Bank Bldg.: CHARLOTTE OFFICE: 1201-3 Johnston Building
EXPORT DEPARTMENT: United States Machinery Co., 115 Broad St., New York, U. S. A.

NEW

Simplified—Sectionalized TRUCK CASTER CATALOG

BY BaSSick

Here's what the new Bassick catalog on Truck Casters looks like . . . the most complete, most conveniently-arranged truck caster catalog ever published.

"Quick-find" index . . . group photographs of each line of models giving an idea of relative sizes . . . complete construction details with diagrams of important features . . . simple caster identification system . . . helpful installation data . . . quick guide to specifications.

Bassick's 96-page Truck Caster Catalog No. 122 is beautifully printed, has an attractive, durable cover and a plastic binding that permits pages to be held open flat.

Be sure you have a copy of this catalog for ready reference and easy ordering. Ask your distributor for Bassick's new Truck Caster Catalog.

10 SECTIONS
each complete with detailed information and illustrations on

Load Capacities and Buying Information

★

Heavy Duty Casters

★

Medium Duty Casters

★

Light Duty Casters

★

Casters for Track

★

Stem, Socket and Bracket Casters

★

Position Locks and Brakes

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Sprung Wheel Casters

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Wheels

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Miscellaneous Products

Bassick

Making more kinds of Casters... Making Casters do more

KEEP ROLLING ON BASSICK'S
Industry's Most Complete Line of
TRUCK CASTERS and Related Materials Handling Equipment.

THE BASSICK COMPANY
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Branch Offices: New York City, Chicago, Detroit, St. Louis, High Point, N. C., Los Angeles. Factory Representatives in Principal Cities. In Canada: Stewart-Warner-Alemite Corporation of Canada, Ltd., Belleville, Ont.

ALERT TO TOMORROW'S NEEDS

PERKINS

CALENDER ROLLS

No calender can be any better than the rolls in it

B. F. PERKINS & SON, Inc.

HOLYOKE, MASS., U.S.A.

THE LARGEST MANUFACTURERS OF ROLLS IN THE WORLD

SPECIAL

ANNOUNCEMENT

Effective November 30, 1944, the plant and property, assets and business of the L. H. Gilmer Company were acquired by United States Rubber Company.

Under the new arrangement, the Gilmer organization remains intact, and will continue to function as heretofore. Customer relationships will not be affected. Gilmer representatives, with whom you have dealt in the past, will continue to call upon you; department heads who have been answering your letters, telegrams and telephone calls will be here to serve you; and all the same fine, highly-specialized Gilmer Belts will be available.

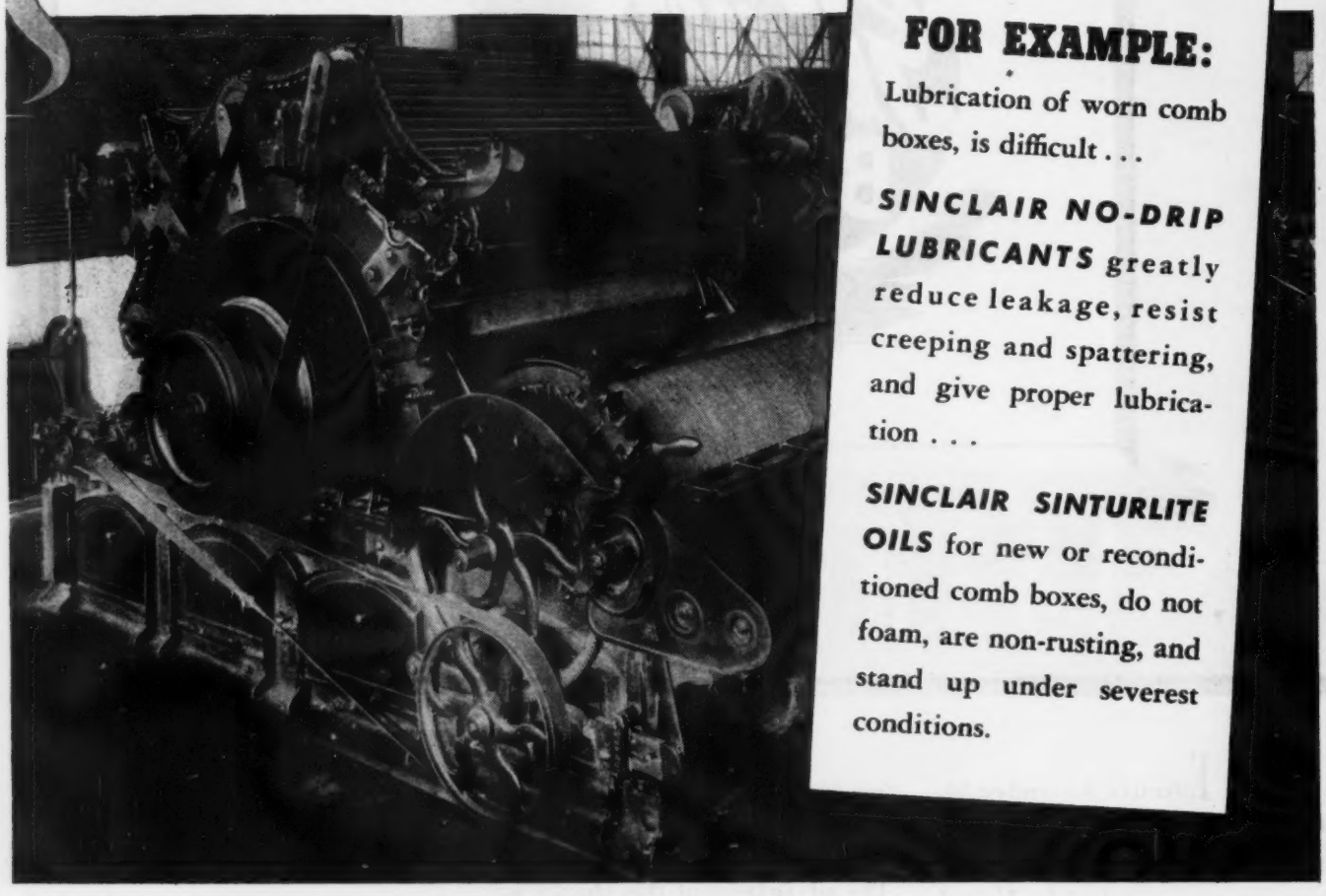
The advantages of this change are many—to you and to the L. H. Gilmer Company. To our research and laboratory development there is now added the vast technical resources of United States Rubber Company. And the enlarged facilities of the Gilmer plant will enable us to render a more complete service. Today, Gilmer stands in a better position than ever before to supply your belting needs.

The L. H. Gilmer Company appreciates the patronage of its many friends, which has contributed much toward making the name Gilmer so well known and highly regarded throughout the world. It is hoped that this pleasant relationship will continue for many years to come.

L. H. GILMER COMPANY
Tacony, Philadelphia 35, Pa.
DIVISION OF UNITED STATES RUBBER COMPANY

SINCLAIR has the Answers to Your Lubrication Problems!

OLDEST CRUDES MAKE FINEST LUBRICANTS



FOR EXAMPLE:

Lubrication of worn comb boxes, is difficult . . .

SINCLAIR NO-DRIP LUBRICANTS greatly reduce leakage, resist creeping and spattering, and give proper lubrication . . .

SINCLAIR SINTURLITE OILS for new or reconditioned comb boxes, do not foam, are non-rusting, and stand up under severest conditions.

SINCLAIR in cooperation with textile engineers and machinery manufacturers has developed a highly specialized line of lubricants for all mill requirements. The extent of Sinclair research is apparent in the newly compiled "Sinclair Textile Flow Chart and Lubrication Guide." It can promote better machine performance, save wear, and reduce lubricant inventories in your mill. Write for complimentary copy today.

SINCLAIR TEXTILE LUBRICANTS

FOR FULL INFORMATION OR LUBRICATION COUNSEL WRITE SINCLAIR REFINING COMPANY, 630 FIFTH AVENUE, NEW YORK 20, N. Y.

THE

Final

CHOICE

depends greatly upon the quality of the knitting. Torrington Needles—machine engineered and machine-controlled in manufacture—will help you give your postwar products that knit-in *quality* that sells and re-sells.

TORRINGTON

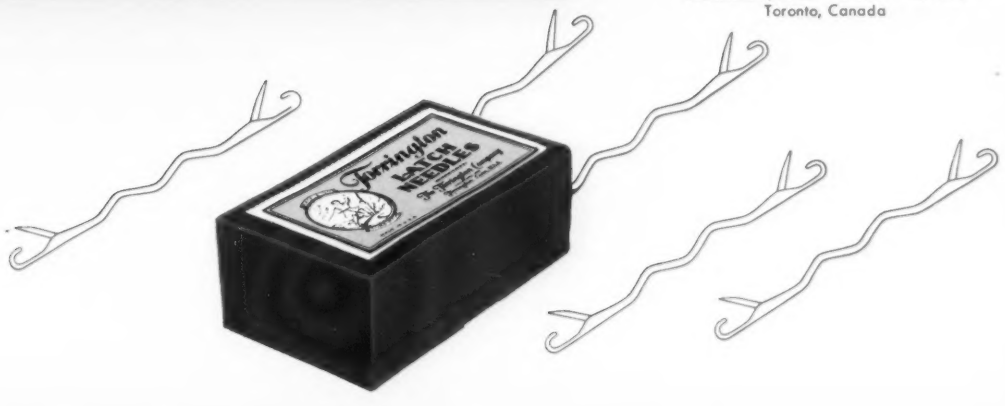
Latch Needles

THE TORRINGTON COMPANY

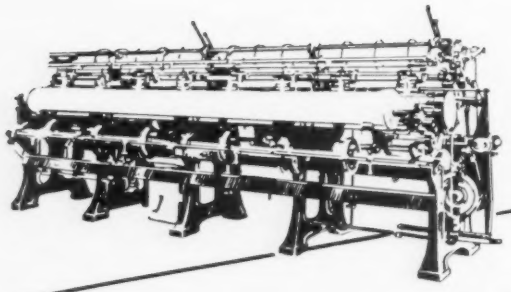
Torrington, Conn., U. S. A.

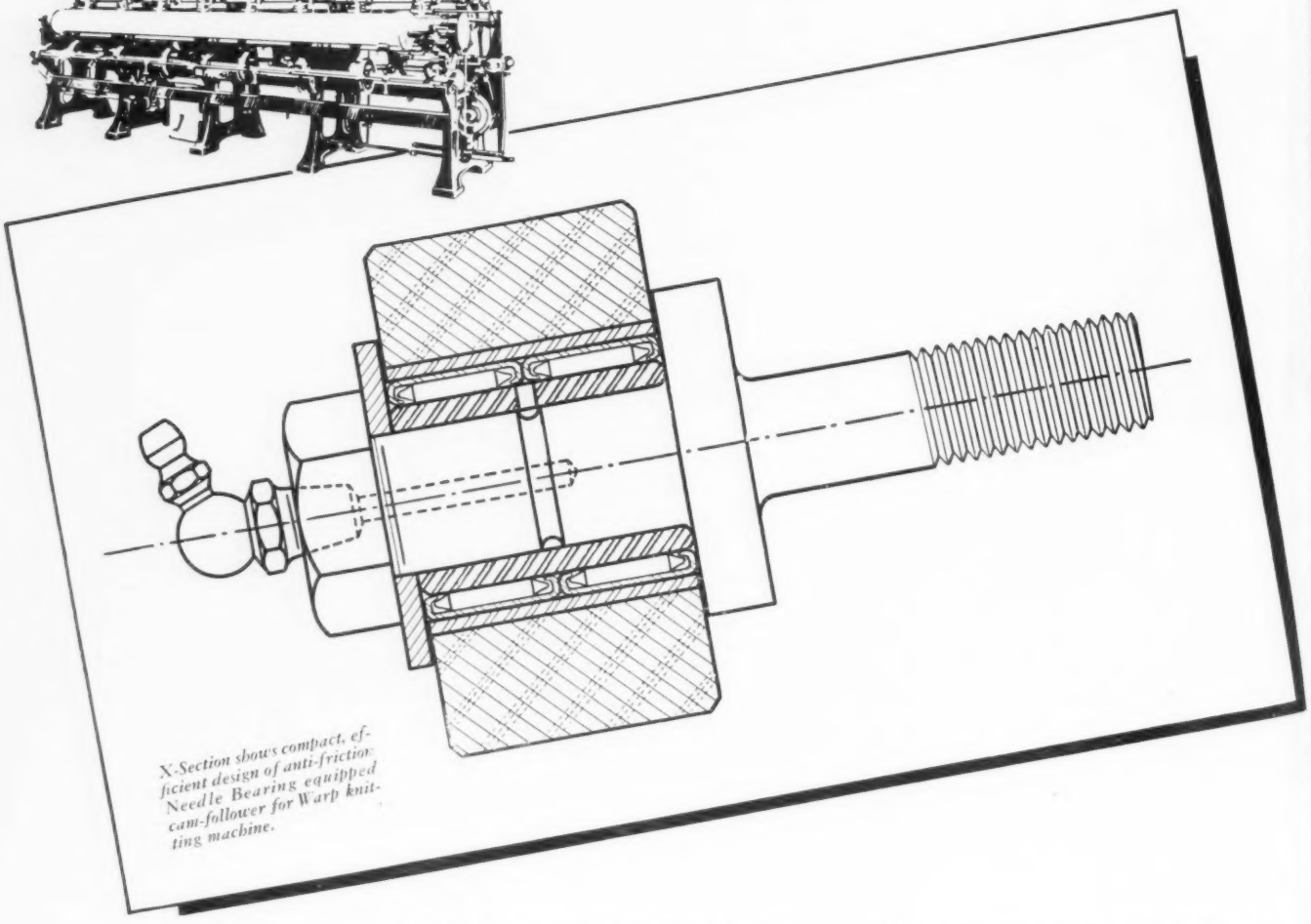
Established 1866

Branches: New York • Philadelphia • Chicago
Greensboro, N. C. • Boston • St. Louis
Toronto, Canada



Check These Advantages of Needle Bearing Cam-Followers





X-Section shows compact, efficient design of anti-friction Needle Bearing equipped cam-follower for Warp knitting machine.

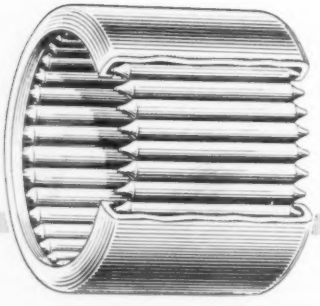
With the greater efficiency of full anti-friction operation, Torrington Needle Bearing equipped cam-followers give many operating and service advantages.

Reduced cam wear, due to more positive motion, means less frequent need for cam redressing.

Greater lubricating efficiency—due to the design of the Needle Bearing, which *retains* the lubricant *within* the bearing—reduces the need for frequent service attention.

In addition, the high capacity, low friction coefficient, and long service life of Torrington Needle Bearings offer many other opportunities for increased efficiency and economy in both design and operation of many types of textile machines.

Look for these and other advantages of Needle Bearings when you buy new machines.

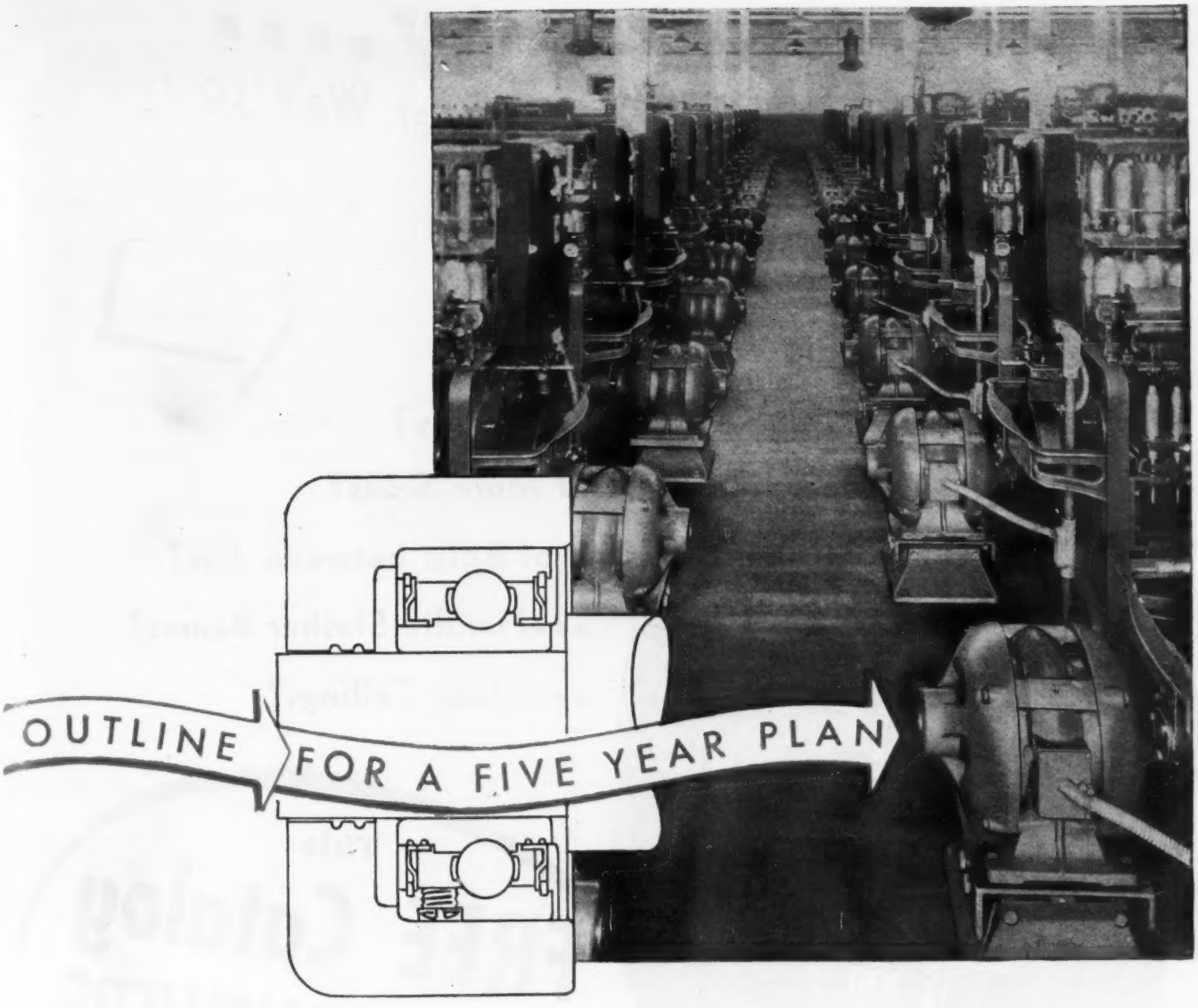


THE TORRINGTON COMPANY

TORRINGTON, CONN. • SOUTH BEND 21, IND.

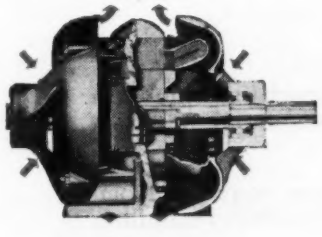
New York Boston Philadelphia Detroit Cleveland Seattle Chicago San Francisco Los Angeles Toronto London, England

TORRINGTON NEEDLE BEARINGS



OF MOTOR MAINTENANCE

Here's how the Lint-Free Motor cleans itself. This simple construction will cut your maintenance costs—and your repair parts needs. Get the complete facts—write for folder B-3515.



Here's a self-sealed bearing you can grease and forget—for five years! We've built it into our *Lint-Free* Motor, to give you more production—*with less maintenance.*

Prelubrication at the factory simplifies your maintenance problem two ways—you don't have to grease the motor—and there are no oily spots to collect lint.

That's only part of the story. The Lint-Free Motor has six built-in wind tunnels that sweep air (and air-borne lint) in—through—and out—*fast*—to keep the motor cool—and *clean*. That's why they're *Lint-Free Motors*. Westinghouse Electric & Manufacturing Company, P. O. Box 868, Pittsburgh 30, Pa.

J-21320

Westinghouse

PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

LINT-FREE MOTORS

Do You Know....

the Best and Most Economical Way to

- ...Reduce Gouts and Slubs?
- ...Handle Wool Jack Spools?
- ...Properly Distribute Humidity?
- ...Have Spinners Tend More Sides?
- ...Permit easy Passage of Rolls between Jigs?
- ...Handle Slasher Beams?
- ...Clean Ceilings?

This **FREE Catalog has the ANSWERS** (and many more)

American MonoRail Cyclonic Cleaners offer the most efficient cleaning service. American MonoRail Overhead Handling Equipment offers the best in overhead handling.

This catalog, profusely illustrated, will be promptly sent upon request. Competent textile engineers will gladly discuss your cleaning and overhead handling problems. WRITE TODAY!

THE AMERICAN MONORAIL CO.
13108 ATHENS AVENUE . . . CLEVELAND 7, OHIO

GRINNELL

Grinnell Corporation
Grinnell Company, Inc.
Grinnell Company of the Pacific
Grinnell Company of Canada, Ltd.
American Moistening Company
Columbia Malleable Castings Corp.
The Ontario Malleable Iron Company, Ltd.

•

MANUFACTURED PRODUCTS

Pipe and Tube Fittings
Pre-Engineered Pipe Hangers
Prefabricated Piping
Unit Heaters
Automatic Sprinkler Fire Protection Systems
Humidification Systems

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SUPPLIERS OF

Pipe
Valves
Specialties for Heating Plumbing, Water Works, Fire Protection and Pulp and Paper Mills

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WAREHOUSES

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Los Angeles
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Providence
St. Louis
St. Paul
San Francisco
Seattle
Toronto
Vancouver

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MANUFACTURING PLANTS

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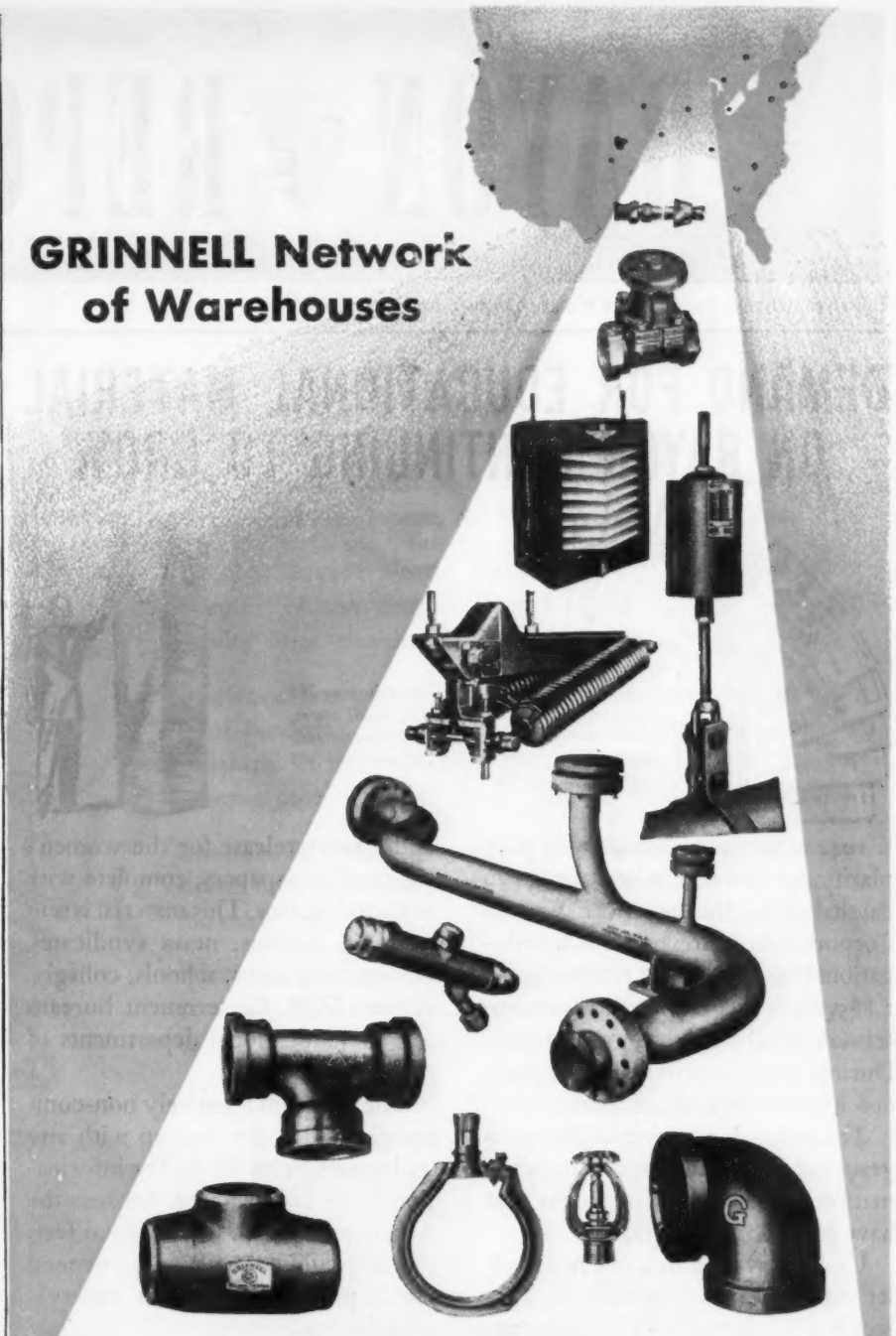
Cranston, R. I.
Oshawa, Ont.
Providence, R. I.
Toronto, Ont.
Warren, Ohio

GRINNELL Network of Warehouses



Brings PIPING SUPPLIES close to you

GRINNELL COMPANY
EXECUTIVE OFFICES PROVIDENCE 1, R. I.

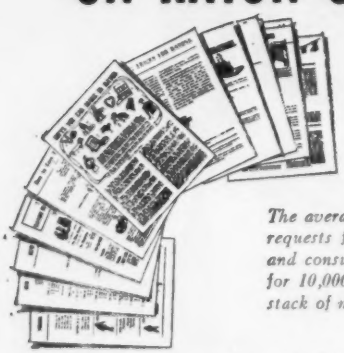
GRINNELL

WHENEVER *Piping* IS INVOLVED

RAYON REPORTS

Published Monthly by American Viscose Corporation, New York, N. Y. FEBRUARY, 1945

DEMAND FOR EDUCATIONAL MATERIAL ON RAYON CONTINUING TO GROW



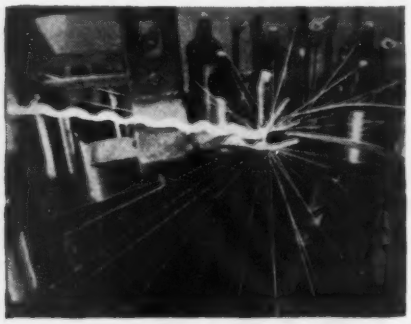
The average day's mail brings in over 200 requests from schools, clubs, retail stores, and consumers. Filling these requests calls for 10,000 leaflets a day, or an eight-foot stack of material.

1944 was a year of continuing popularity for the educational program carried on by the American Viscose Corporation. 53,107 requests for educational material were received, and 2,885,593 leaflets were distributed to school, retail and consumer groups. During 1943, approximately 2,500,000 leaflets were distributed.

The over-all purpose of the program is to substitute accurate information for the erroneous ideas that have grown up with rayon.

Under this program, one new leaflet is prepared each month. Its subject is also adapted to a radio script, and a news release for the women's pages of newspapers, complete with mats and photos. This material is sent to radio stations, news syndicates, newspapers, clubs, schools, colleges, various U. S. Government bureaus and the educational departments of retail stores.

The program is entirely non-commercial and is not tied up with any trade-mark promotion. The information is not copyrighted, because the American Viscose Corporation feels that it should be available for general use. A portfolio of current leaflets is available on request.



WIDE VARIETY OF MACHINES IN RESEARCH DEPARTMENT

The Textile Research Department of the American Viscose Corporation at Marcus Hook, Pa., provides complete facilities for studying rayon textile production. It contains full-size commercial machinery that duplicates much of the equipment installed in American textile mills. The ric-rac braiding machine shown here indicates the wide variety of equipment with which the Department works.

RAYON PRICE PREDICTIONS CLARIFIED

Recent statements predicting that the postwar prices of rayon will be far below current levels are without basis in fact and should be corrected to prevent misunderstanding.

Many of these statements assert that the postwar price of "rayon" will be 15 to 16 cents a pound. Apparently these price predictions refer to viscose rayon staple fiber, although the fact is not made clear. To rayon producers, close to costs and production problems, such a sharp reduction in the price of viscose rayon staple does not appear to be either possible or probable.

Through These Spinnerets...

PASS MORE POUNDS of rayon than through any others in America. The American Viscose Corporation operates seven plants . . . and produces rayon yarn and staple fiber by both the viscose and acetate processes.

In addition to producing rayon for a thousand and one types of fabrics and many industrial uses, we are the makers of Vinyon* and Vinyon E* . . . and rayon tire yarn and fabric. These special products are being entirely consumed by the American war program, so they are not available for commercial distribution either in the United States or abroad.

The American Viscose Corporation is also active in the fields of fabric development and textile research. Our program of continuous research . . . dedicated to the development of new fibers and to the improvement of existing ones . . . is playing a major role in American textile progress.

AMERICAN VISCOSE CORPORATION

America's largest producer of rayon yarns and staple fibers
—no fabrics or other textile products for consumer use

Export Department: 350 Fifth Avenue, New York 1, N. Y.

NEW ADVERTISING IN LATIN AMERICA

The American Viscose Corporation is beginning an educational campaign in the Air Express Edition of "Time" Magazine, to acquaint the people of South America with the company's facilities and the scope of its activities in the textile field. Shown here is the opening advertisement in this campaign.

MAKE USE OF 4-PLY SERVICE

1 PRODUCT RESEARCH
Helps you get the right yarn or fiber.

2 FABRIC DEVELOPMENT
Helps you design new fabrics.

3 TEXTILE RESEARCH
Helps solve production and finishing problems.

4 "CROWN" TESTED
Helps provide scientific selling facts.

AMERICAN VISCOSE CORPORATION

Producer of
CROWN* *Rayon Yarns and Staple Fibers*

Sales Offices: 350 Fifth Avenue, N. Y. C. 1; Providence, R. I.; Charlotte, N. C.; Philadelphia, Pa.

Plants at: Marcus Hook, Pa.; Roanoke, Va.; Lewistown, Pa.; Nitro, W. Va.; Parkersburg, W. Va.; Meadville, Pa.; Front Royal, Va.

*Reg. U. S. Pat. Off.

STRONG, SMOOTH, STABLE.

That's Formica Pregwood!

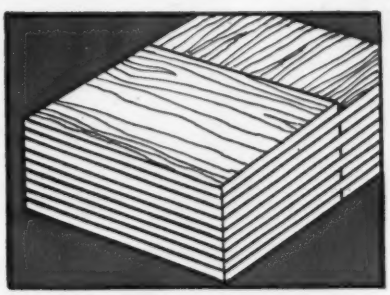
PREGWOOD is a relatively new material possessing many unusual qualities that have adapted it to many uses—such as switch gear in heavy duty switches, picker sticks on textile looms, ski bottoms on military skis.

The test figures shown below indicate the remarkable strength of the material—which has a lower specific gravity than aluminum.

Pregwood has a certain measure of efficiency as an electrical insulator. It is non-absorbent and does not take up moisture. It is chemically inert and can be used for apparatus parts that will be exposed to acids and alkalies.

Changes in humidity have relatively little effect on dimensions; and a low co-efficient of thermal expansion holds the material stable under marked changes in temperature.

It has the quality of wearing smoothly without slivering or cracking. This makes it especially desirable for parts of textile machinery where it will not snag threads of fabrics.



Pregwood is built up by impregnating wood laminations with phenolic resins and pressing them together under heat and pressure. The laminations may be arranged with grain running one direction. This method produces high strength products such as Pregwood 1100.

THE FORMICA INSULATION COMPANY
4630 Spring Grove Avenue
CINCINNATI 32, OHIO

PREGWOOD 1100	TENSILE STRENGTH #/sq. in.	COMPRESSIVE #/sq. in.	IZOD IMPACT Ft. Lbs./In. Notch Width	
			Flatwise	Edgewise
	30,000	20,000	7.0	6.0
	FLEXURAL #/sq. in. 48,000			

Test samples are available on request—

FORMICA

PLASMA TO THE RESCUE...
Mr. Cellophane protecting the needle!

THE NEEDLES which transmit blood plasma to our Armed Forces *must be kept sterile.* And that's Sylvania cellophane's job! The needles are first sealed in cellophane then sterilized at terrific heat. The cellophane stays air-tight and bacteria resistant. The needles stay sterile!

One more essential war job for Sylvania! One more "command performance" for cellophane. But bear in mind that the developments Sylvania is making today will mean more uses for cellophane . . . and better cellophane . . . in the postwar tomorrow.

SYLVANIA CELLOPHANE

Made only by SYLVANIA INDUSTRIAL Corporation

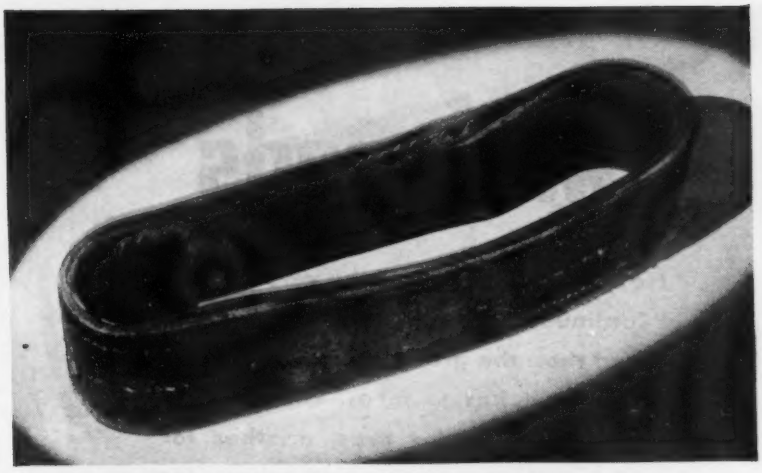
Manufacturers of cellophane and other cellulose products since 1929

General Sales Office: 122 E. 42nd St., New York 17, N. Y. ★ *Plant and Principal Office:* Fredericksburg, Va.

SYLVANIA CELLOPHANE ARMY (E) NAVY

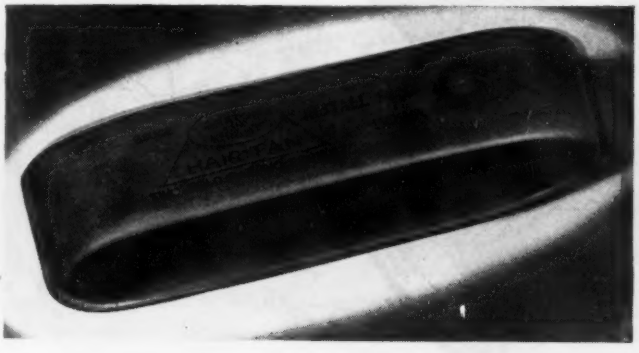
•Reg. Trade Mark

42 Months ON The Loom

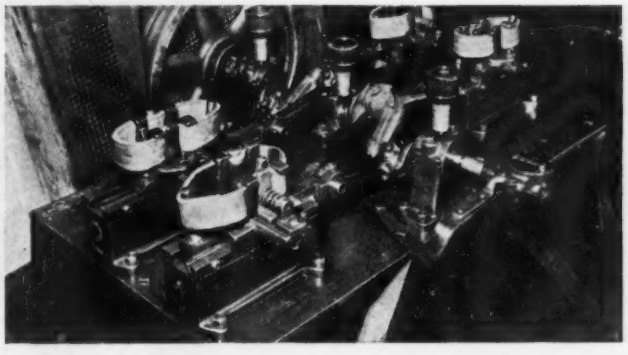


This Graton & Knight "Two-Fold" Check Strap of "Hairitan" leather operated in a mill three shifts a day for 14 months—the equivalent of better than 42 months' normal service, considering it had no periods of "relaxation" between shifts.

TYPICAL ORANGE LINE PERFORMANCE



Records like this demonstrate the high tensile strength (averaging 6000 lbs.) and resiliency of Graton & Knight's "Hairitan" leather — acknowledged at least the equal of any "European-type" hair-on leather. The unique "Two-Fold" construction permits the strap to adapt its contour to the angle of the picker stick at the point of maximum impact.



Torture tests assure top performance for ORANGE LINE loom products. Here check straps taken at random from stock are tested by a special machine which concentrates many months of service into a short period. The "picker stick" strikes the strap four times as often and with far greater force than the fastest loom.

THE ORANGE LINE

ONE QUALITY CONTROL FROM HIDE TO LOOM

"Hairitan" products, identified by orange color on the flesh side, are manufactured, from green hide to finished product, under one roof, under a single control of quality, by *the world's* largest manufacturer of industrial leather goods.

PICKMASTER PICKERS with the famous "Life Saver" Hole . . . BLOCK PICKERS extra-resilient, cemented under pressure . . . "TWO-FOLD" CHECK STRAPS straight or endless . . . JACK & FLAT HARNESS STRAPS for heavy-duty work . . . ROUND HARNESS & DOBBY STRAPS center-stock "Hairitan" . . . LUG STRAPS 4 or 5 ply, folded, stitched; 2 or 3 ply, cemented . . . LUG HOLD-UP STRAPS . . . BUMPER OR SPINDLE STRAPS 1 or 2 ply.

Graton & Knight also manufacture oak-tanned pickers, lug straps, bunters, box plate and binder leathers . . . "Research" rub roll aprons . . . G&K condenser tapes . . . G&K comber and gill box aprons . . . "Research" leather belting.

Give your loom fixers a chance to improve their records. Send for a valuable catalog on G&K textile leathers and let them check each product, each advantage. Also have your name placed on a list to receive our informative literature on textile leathers. Address 326 Franklin St., Graton & Knight Company, Worcester 4, Mass.

GRATON AND KNIGHT

ORANGE LINE LOOM LEATHERS

Supplied by the leading distributors to the textile industry . . . look under Graton & Knight in "Belting" section of Classified Telephone Directory or THOMAS' REGISTER. See complete catalog in TEXTILE WORLD YEAR BOOK.

war needs

No more severe test of the versatility of "Continuous Process" could have been found than the great variety of military demands it has to meet. One type of yarn is needed for tires, another for aerial delivery chutes, still others for the wide range of war fabrics that depend on rayon for their being. With each yarn, regardless of type or size, the thread advancing reel permits every inch to be subjected to the individual thread treatment that assures uniform quality throughout.

Advancing Reel* —Heart of the "Continuous Process"

...comes peace

Once victory is won, these reels in operation on the "Continuous Process" machines will demonstrate their versatility in making yarns for a civilian world. There will be sturdy yarn for tires and fine denier yarns for the daintiest of apparel. There will be yarns to meet peace-time demands as they have met war-time demands—and all will be distinguished by their outstanding uniformity, freedom from knots and broken filaments, and exceptional running qualities in the mill.

Industrial RAYON CORPORATION
MAKERS OF Spun-lo and TYRON
BY THE Continuous Process

*Reg. U. S. Pat. Off.

CLEVELAND, OHIO • NEW YORK OFFICE, 500 FIFTH AVE.

Everyone Has An Economic Stake In

INDUSTRY'S No. 1 PROBLEM

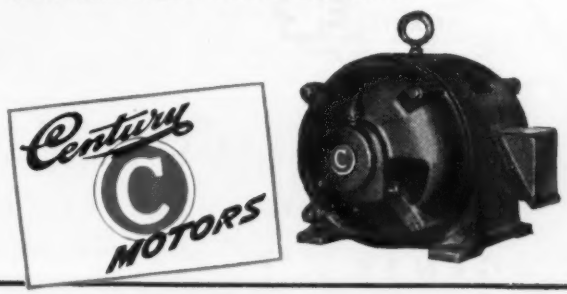
. . . and CENTURY MOTORS Help to Increase and Maintain Jobs by Aiding Manufacturers to Produce More and Better Goods at Lower Cost

Thousands of manufacturers of production and processing equipment and the plants that use this equipment are realistically planning to increase and maintain jobs and job security for millions by improving production methods, which, in turn, will result in more and better goods at lower costs.

How Century Motors Help Producers to Effect Lower Costs

Production and other processing equipment play a vital part in building and maintaining postwar prosperity, and electric motors are production tools, too — being a component part of the machines they drive.

The production advantages of Century Motors include the great variety of motor types available to match the functional characteristics of machine operation — their unusual freedom from vibration that contributes to closer tolerances in high speed, precision work — motor protection that means uninterrupted production in spite of hazardous atmospheric conditions — a keep-a-running ability that spells continuity of operation — permanently quiet operation that conserves human energy — and many other Century features that reflect lower final costs.



An Individual Organization Job

The answer to Industry's No. 1 Problem must come from each individual organization — not business as a whole. American enterprise can increase jobs and maintain job security at high wages only by each and every company improving its production methods. As a result, John Q. Public will be able to buy more and better goods at lower cost.

Century's Organization Helps, Too

The nation-wide organization of Century Motor Specialists is helping machine tool builders and appliance manufacturers to effect savings in original design as well as savings in production output. These men can be of greatest help while your design is in the blueprint or experimental stage.

We All Have a Stake in the Final Result

Whether you are a manufacturer of consumer products or industrial equipment, a wholesaler or retailer — you, too, have a direct or indirect stake in this problem of delivering a better product to the final user at a lower cost.

Act Now! If you are a manufacturer of motorized equipment or appliances, it may pay you to call the nearest of Century's 31 branch offices. Century may well aid you to make better products at lower costs — so that more people may buy.

CE-414

CENTURY ELECTRIC COMPANY · 1806 Pine Street, St. Louis 3, Missouri

Offices and Stock Points in Principal Cities

EMMONS Steel Heddles They're Easy to Get

Inspected and approved

EMMONS PRODUCTS ARE INSPECTED FROM START TO FINISH IN THEIR MANUFACTURE, IN ORDER TO CONTROL THEIR HIGH STANDARD OF QUALITY

REPRESENTATIVES IN 6 TEXTILE DISTRICTS

LAWRENCE

Main Office and Plant, P. O. Box 927, Telephone: Lawrence 6194.

NEW YORK

W. S. Taylor, 52 Vanderbilt Avenue, Telephone: Lexington 2-6060.

CHICAGO

Albert R. Breen, 80 E. Jackson Blvd., Telephone: Harrison 7140.

CHARLOTTE

Branch Plant and Sales Office: Clifton Watson, Manager Southern Sales, P. O. Box 2036. Telephone: Charlotte 3-7503.

ATLANTA:

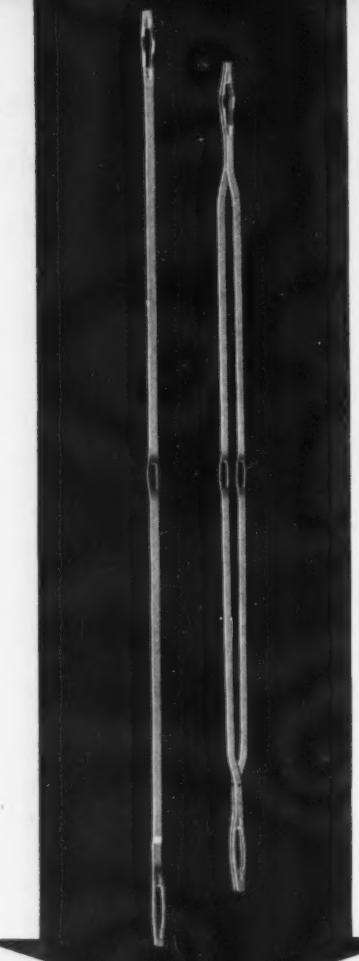
Arthur Harris, P. O. Box 1982. Telephone: Main 2543.

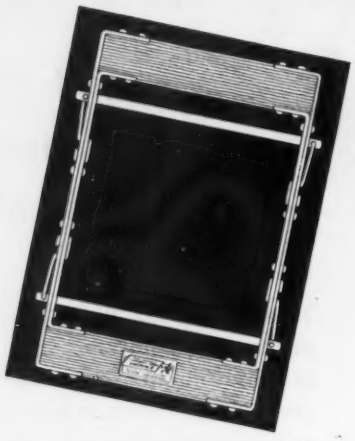
DALLAS, TEXAS

R. D. Hughes Sales Company, 1812 Main St., Telephone: C-6283, C-6284.

EMMONS STEEL HEDDLES ARE CARRIED IN STOCK IN LAWRENCE AND CHARLOTTE

Made in straight and duplex types (also special) of special high carbon steel, nickel or cadmium plated and stainless.





HEDDLE FRAMES

Made in three standard styles—single iron ends, double iron ends, combination ends; also special frames to order. Metal parts are protected by zinc plating.

OTHER EMMONS PRODUCTS

Reeds of all kinds
Twine Harness
Slasher Combs
Loop and Doll Pickers

J. W. PICKER APRONS & CONVEYERS

Standard sizes in stock. Special sizes to order. Wood—well finished, selected maple. Leather—best quality top grain of the bend.

Made to order with Fabreeka in place of leather. Fabreeka will not stretch; outlasts leather up to 3 times.

Aprons repaired in Lowell and Charlotte.

EMMONS LOOM HARNESS COMPANY

LAWRENCE, MASS. • CHARLOTTE, NORTH CAROLINA

EXPORTS AGENTS

ARGENTINA:	BRASIL:	CHILE:	COLOMBIA	CUBA:	MEXICO:	PERU:	VENEZUELA:	URUGUAY:
Buenos Aires	Rio de Janeiro and São Paulo	Santiago	Medellin	Habana	México, D. F.	Lima	Caracas	Montevideo
Storer & Cia	A. Polak	W. L. Robinson	C. E. Halaby & Co.	J. M. Pérez Pena	Lee Lank	Constantino N. Sabal	N. Marrez	Storer & Cia
Chacabuco 443-49	Caixa Postal 362	Castilla 4075	Apartado 139	Apartado 1611	Apartado 833	Apartado 2288	Apartado 291	Chacabuco 443-49

But when S-C-T Combed Cotton Yarns return from the wars, you can count upon their uniformity and free-running smoothness to help you turn out more marketable merchandise faster . . . garments of greater beauty, comfort and wear.

STANDARD's *absolute control* of S-C-T Yarns from cotton boll to finished cone safeguards their quality characteristics as well as your quality production. ★

BRANCH OFFICES:
New York 16, N.Y., 185 Madison Ave. Chicago 54, Ill., 940 Merchandise Mart
Greensboro, N. C., Guilford Building Reading, Pa., Reading 6262
Utica, N. Y., P. O. Box 105

Standard Durene • Selo • Preemo • Combed Saks • Threads • Combed Peelers

Speed Victory
and Peace...
Buy Extra War Bonds

STANDARD-COOSA-THATCHER CO.

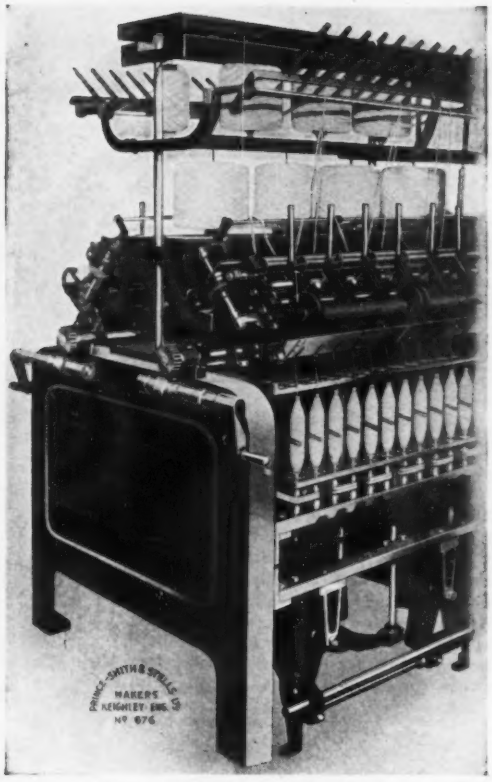
CHATTANOOGA 1, TENNESSEE

Sales Offices: 804-6 Lafayette Building, Philadelphia 6, Pa.

Representatives in principal Cities and in Central and South American Countries

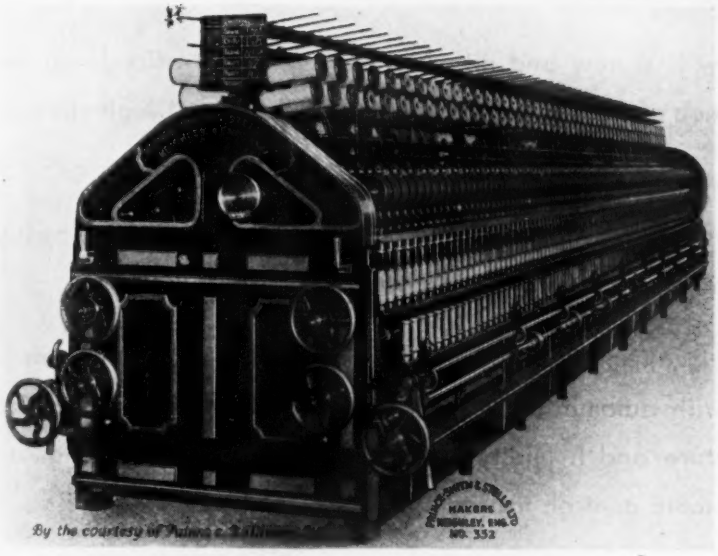
BEMBERG*...a name that conjures visions of lovely things
passing in review through the years... America's finest fashion creations, inspired
by the exquisite fabric masterpieces made with Bemberg rayon.
AMERICAN Bemberg CORPORATION
261 Fifth Avenue, New York, N. Y.
* Trade Mark Registered

WE ARE MAKERS OF
THE CONTINENTAL
AND ENGLISH–
SYSTEMS OF COMBING,
DRAWING, SPINNING
AND TWISTING.



Flyer Doffer Spinning Frame

WORSTED



King Spinning Frame—Continental Type

THIS UNIQUE POSITION
MEANS WE CAN OFFER
YOU OUR SERVICES
NO MATTER WHICH
SYSTEM YOU ARE
INTERESTED IN.

Sole Agents U. S. A.

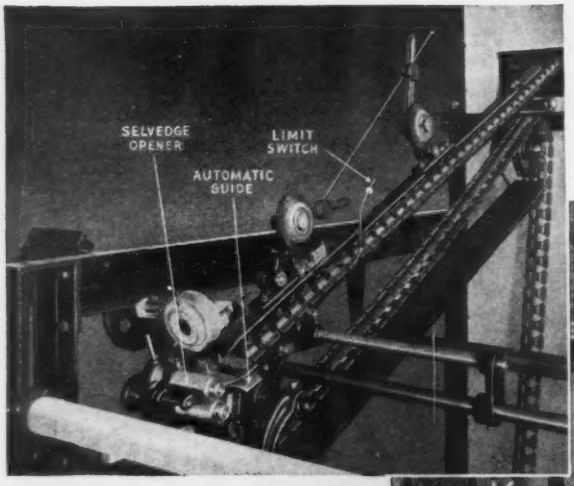
ATKINSON HASERICK & CO.
211 Congress Street, Boston, Mass.

PRINCE-SMITH & STELLS LTD.

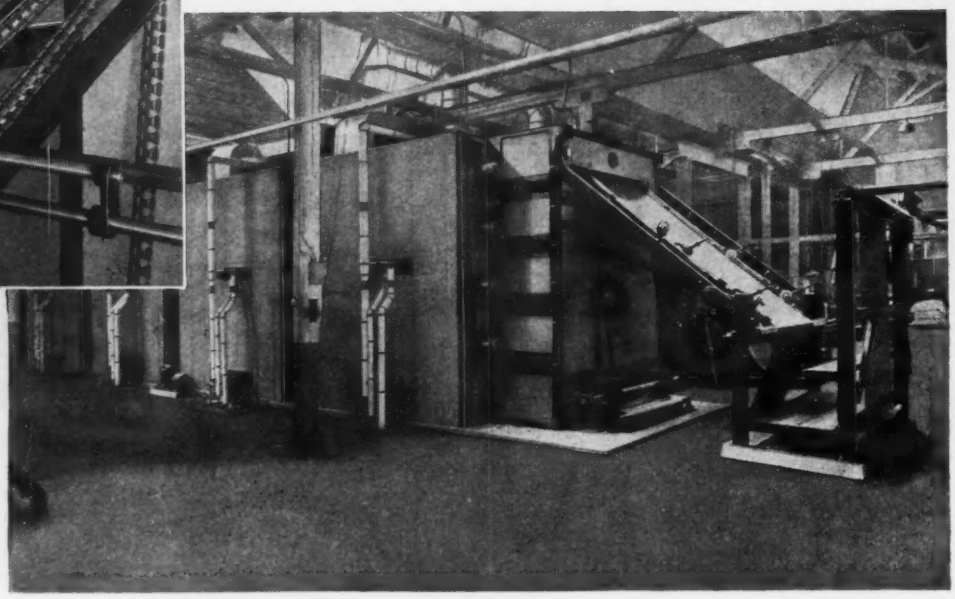
WORSTED MACHINERY MANUFACTURERS

KEIGHLEY (Yorkshire) ENGLAND

BOTANY WORSTED MILLS DRIES CLOTH UP TO 90 YARDS PER MINUTE WITH NEW HUNTER UNIFLOW TENTER DRYER



The cut shown above illustrates Automatic Guider, Patented Hunter Selvedge Opener, and Double Brush mounted on entering rail of Dryer. Illustration shows units mounted on left rail only, but they are furnished on both entering rails. Limit switch to stop Dryer if cloth fails to engage pins is shown by arrow. Limit switch furnished on both entering rails.



As part of their modernization program, the Botany Worsted Mills of Passaic, New Jersey, have just installed a new Hunter Uniflow Tenter Dryer as illustrated. This new unit has dried 7 to 12-ounce woolen and worsted fabrics at 65 to 90 yards per minute, 32-ounce cloth in excess of 20 yards per minute, and with low pressure steam and one man's labor.

The Hunter Uniflow is a new and different cloth tenter. It affords an entirely new conception of air drying cloth with new handle at high speeds. For example:—

Drying time in most cases is less than two minutes. Your cloth is exposed to heat and air but a fraction of the time usually required.

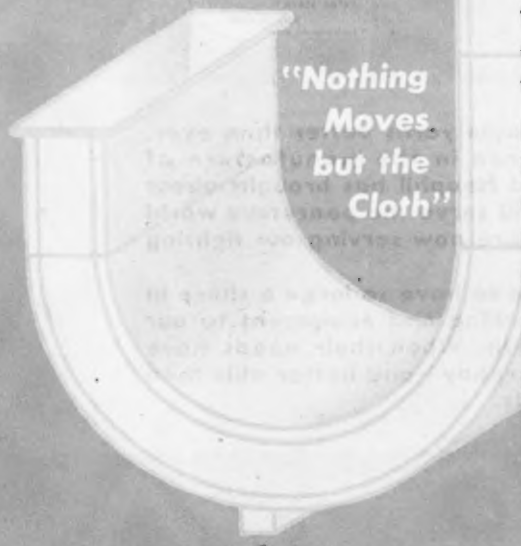
The new Uniflow is all metal and requires only one man's operation. It comes complete with automatic guides, automatic chain oilers, selvedge openers, temperature and humidity controls or indicators, recording devices, counters, remote control, tachometer, etc.

We invite you to write for production details on installations in scores of outstanding mills and for new complete brochure just off the press.

JAMES HUNTER MACHINE CO. NORTH ADAMS MASS.

JAMES HUNTER MACHINE CO.
NORTH ADAMS, MASSACHUSETTS, U.S.A.
FOUNDED 1847

A quicker, better and cheaper bleach with BECCO CONTINUOUS PEROXIDE BLEACHING



By this method cotton goods are bleached by forcing steam through the material after it has been saturated with a suitable hydrogen peroxide solution. The amount of solution used per pound of cloth is much less than used for kier bleaching. Less water has to be heated. By using steam, temperatures are higher than used heretofore. Both these factors combine to give a better bleach, in a shorter time and at a lower cost. Steam bleaching means higher production and shorter processing time.

Becco engineers are experts in all branches of textile bleaching. They will be glad to survey your plant facilities and equipment and make recommendations as to how plant practices may be improved and costs reduced. They will be glad to tell you truthfully whether your volume justifies the investment required for the installation of continuous bleaching. They will advise you as to the best and most suitable process, equipment and chemicals to use to most economically suit your requirements.

BECCO SALES CORPORATION

AGENTS FOR BUFFALO ELECTRO-CHEMICAL CO., INC., BUFFALO 7, N. Y.

New York Boston Philadelphia Chicago Charlotte

When we go back to civvies again...

MADE OF
Weartwist®
YARN
MERCERIZED COTTON

The Nylon Seaming and Looping Thread, made by Premier Thread Co., Pawtucket, R. I.

...you will find Aberfoyle yarns better than ever. War-gained experience in the manufacture of Durene, Weartwist and Neophil has brought about improvements which will serve the peacetime world as effectively as they are now serving our fighting fronts.

Aberfoyle is gratified to have so large a share in supplying essential clothing and equipment to our service men and women. When their needs have been filled, we will be ready—and better able than ever—to fill *your* needs.

ESTABLISHED 1883
Aberfoyle YARNS
AMERICA'S OLDEST MERCERIZERS OF FINE COTTON

ABERFOYLE MANUFACTURING COMPANY
123 South Broad Street, Philadelphia 9, Pa.
—and in the South
ABERFOYLE MANUFACTURING COMPANY
Belmont, North Carolina
Representatives in principal textile centers of the world

for dependability

GENERAL DYESTUFF CORPORATION

Confidence —

Manufacturers may face the post-war adjustment period with greater confidence, if supported by the financial and credit services of a strong factoring organization.

Factoring enables a manufacturer to retain his own capital funds in his own business, instead of providing capital for the customers who buy his products; — at the same time factoring provides for such customers the usual credit terms on their purchases.

The factor assumes all risks of credit losses, and makes available immediately in cash, the net value of shipments as made.

Wider distribution and greater sales volume can be attained through factoring, without risk of credit losses, and on less invested capital.

INQUIRIES INVITED

John P. Maguire & Company

INCORPORATED

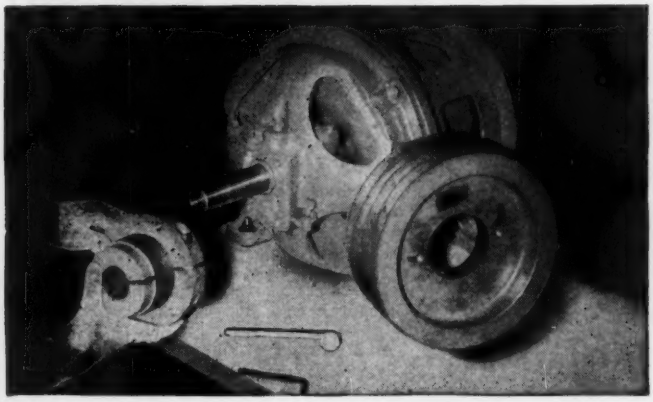
Factors

ASHland 4-4141

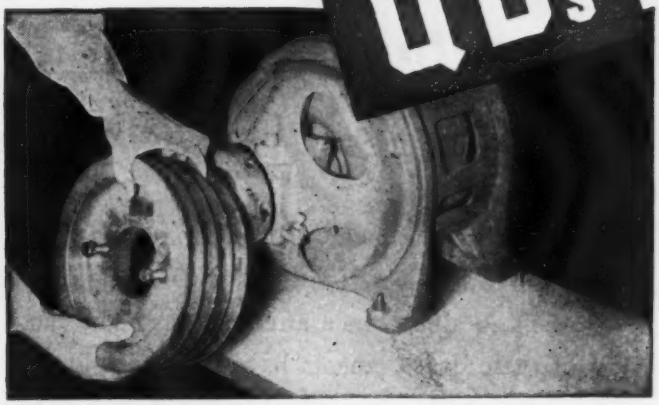
370 FOURTH AVENUE, NEW YORK, 10, N.Y.

DO YOU HAVE THESE 3 FEATURES IN YOUR PRESENT SHEAVES?

If so, they must be WORTHINGTON'S QDs



1. EASY TO GET ON



2. EASY TO GET OFF

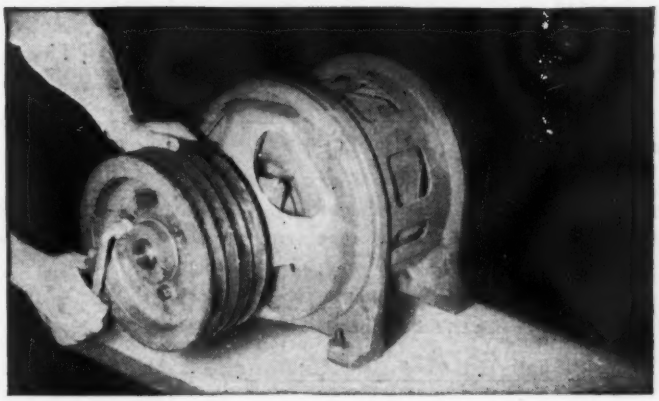
Are you losing time with old-fashioned sheaves? You may be, if you haven't got the QD's time-saving *three* features.

1. Split hub — with taper cone surface for mounting taper bored rim — makes *installation easy*.

2. Pull-up screws usable as jack bolts break Taper Friction Fit, quickly free shaft for bearing maintenance, speed changes, or *quick removal* and mounting of different diameter rims . . . without disturbing the hub. No alignment problems.

3. Bigger pull-up bolts for higher taper cone pressure insure positive clamp grip, keep sheave *always tight on the shaft*.

The sheave with these 3 features, teamed up with Worthington Goodyear Endless Cord V-Belts will give you more for your money. Stock size sheaves and belts at strategic centers from coast to coast.



3. YET ALWAYS TIGHT ON THE SHAFT

Reading Time: 3 Minutes—To Get Accurate Belt Ratings

From the 72-page Master Manual, containing original engineering data . . . sectionalized, loose-leaf, tabbed for ready reference . . . you can select in three minutes the right Worthington V-Belt drive. You get accurate belt ratings . . . avoiding *over*-belting and *under*-belting. Send the coupon today for your free copy! Specification and installation record sheets included.

Centrifugal, Rotary, Steam & Power Pumps | Vertical & Horizontal Compressors | Liquid Meters | Variable Speed Drives | Multi-V-Drives

WORTHINGTON *BEHIND THE NAME* **WORTHINGTON**

Standard Products Division
Worthington Pump and Machinery Corporation
Harrison, N. J.

Standard Products Division
Worthington Pump and Machinery Corporation
Harrison, N. J.

Please send me a copy of the Worthington Master Manual.

Name .....

Company .....

Address .....

WHAT will these developments of '44 mean to you in '45?

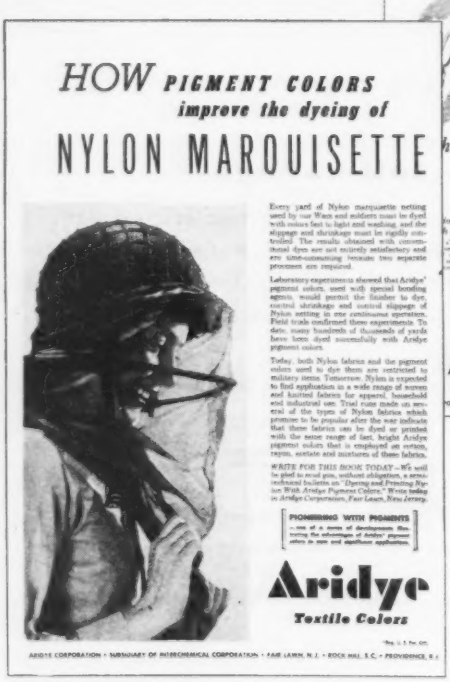
Recent developments in the printing and dyeing of natural and synthetic fabrics with pigment colors may have far-reaching significance after the war. The facts about some of these developments have been told in Aridye advertisements which appeared in textile publications during 1944.

Four of these advertisements are reproduced on this page. If you would like reprints, we shall be glad to send them to you. Write to Aridye Corporation, Fair Lawn, New Jersey.

Pioneering with Pigments
HOW ONE FINISHER Dyes and Flameproofs SHRIMP NETS
Many hours have been saved in the dyeing, mildewproofing and flameproofing of trawl shrimp nets by a continuous, straight-line operation.
Aridye TEXTILE COLORING MATERIALS
ARIDYE CORPORATION · SUBSIDIARY OF INTERCHEMICAL CORPORATION · FAIR LAWN, N. J. · ROCK HILL, S. C. · PROVIDENCE, R. I.

Many hours have been saved in the dyeing, mildewproofing and flameproofing of shrimp nets by a continuous, straight-line operation utilizing Aridye pigment colors.

The leading civilian use of Aridye* pigment colors continues to be the printing of cotton and rayon shirtings and dress goods. Most Aridye printing colors, when properly applied and adequately cured, are fast to light, washing, perspiration, chlorine, ironing, fusing and dry cleaning.


HOW PIGMENT COLORS improve the dyeing of
NYLON MAROUISETTE
PIONEERING WITH PIGMENTS
Aridye
Textile Colors
ARIDYE CORPORATION · SUBSIDIARY OF INTERCHEMICAL CORPORATION · FAIR LAWN, N. J. · ROCK HILL, S. C. · PROVIDENCE, R. I.

Aridye pigment colors permit the finisher to dye, control slippage and control shrinkage of nylon netting in one continuous operation.

NEW BEAUTY FOR Fiberglas...
printed and dyed with
ARIDYE PIGMENT COLORS!
PIONEERING WITH PIGMENTS
Aridye
TEXTILE COLORING MATERIALS
ARIDYE CORPORATION SUBSIDIARY OF INTERCHEMICAL CORPORATION FAIR LAWN, N. J. ROCK HILL, S. C. PROVIDENCE, R. I.

Fiberglas does not absorb water and is difficult to color with ordinary dyestuffs, but Fiberglas can be dyed and printed readily with the same range of Aridye colors that is employed on cottons and rayons.

Aridye

Textile Coloring Materials

*Reg. U. S. Pat. Off.

ARIDYE CORPORATION · A SUBSIDIARY OF INTERCHEMICAL CORPORATION · FAIRLAWN, N. J. · ROCK HILL, S. C. · PROVIDENCE, R. I.

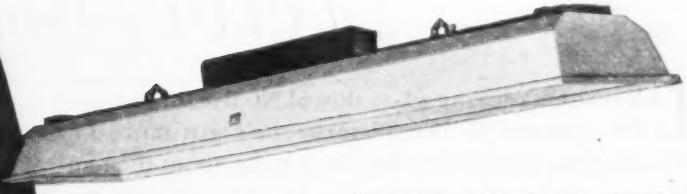
THE PLACE

THE PROBLEM

The problem: To provide glareless, shadow-free, high-level illumination to make seeing easier for weaving operations. Illumination must be adequate for quick location and repair of broken ends, to permit defects to be "picked out", and for inspection of cloth during weaving. In the manufacture of gray goods, these tasks are particularly difficult.

An average illumination of 25 footcandles was considered minimum, with 35 to 50 preferred.

THE SOLUTION



Type 2FP-100 Westinghouse Luminaire with two 100-watt white fluorescent lamps.

Solution: One unit chain-suspended over each loom at a height of 10-12 feet above the floor provides the level of illumination required. The unit consists of a steel wireway channel with all lamp-operating auxiliaries and a detachable porcelain enameled steel reflector.

For practical help on using Westinghouse Luminaires to increase efficiency in other textile mill operations, call your Westinghouse distributor today. Or write for B-3332. Westinghouse Electric & Mfg. Co., P. O. Box 868, Pittsburgh 30, Pa.

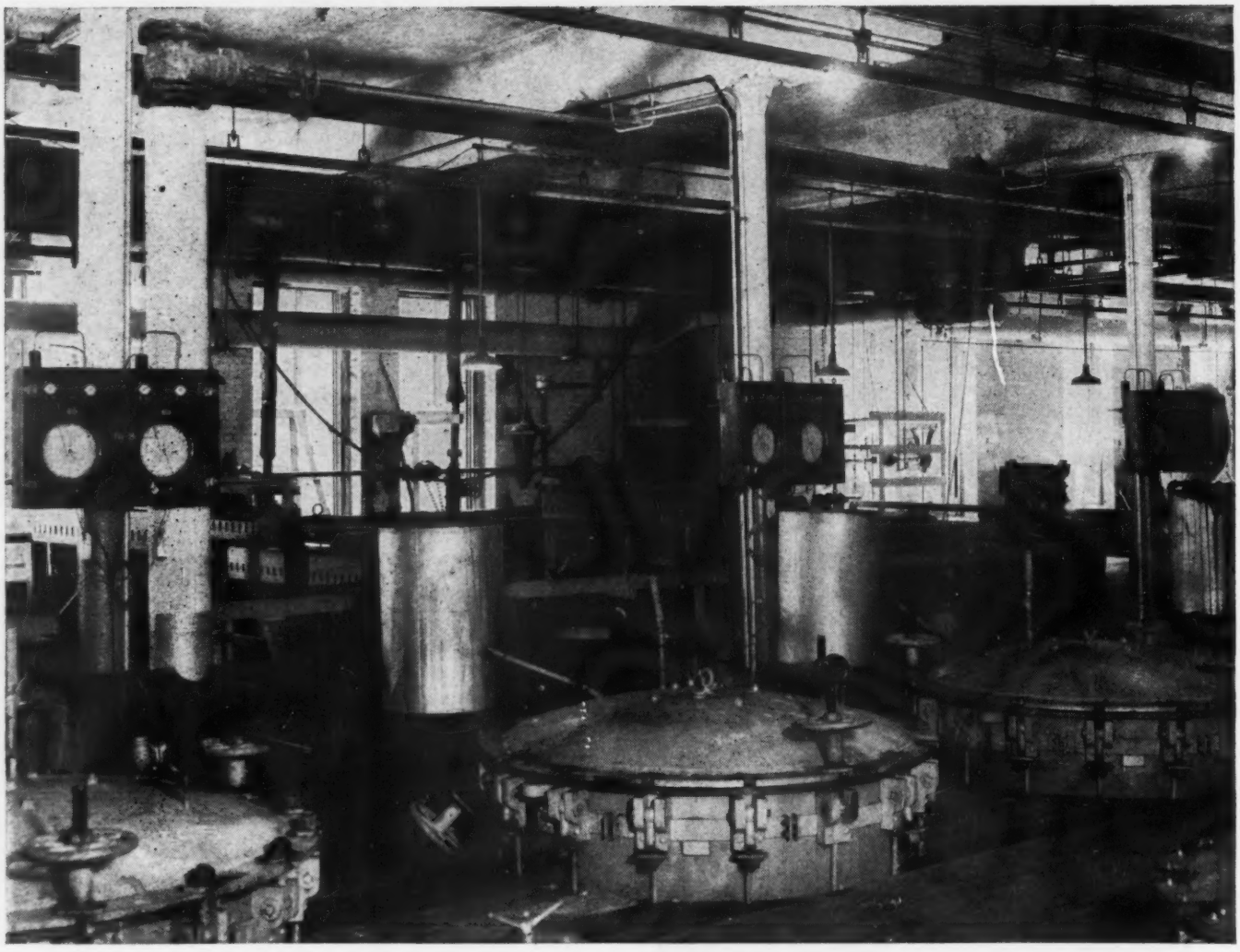
J-94645

Westinghouse

PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

Lighting Equipment

For the Textile Industry



PUZZLE: Find the Operator!

(CLUE: There isn't any!)

LAY that magnifying glass down! No use looking for the operator in this picture—he's got more important things to do. He isn't worrying about the temperature of the raw stock in his Franklin process machines because he knows the temperature will be controlled automatically by those Taylor Fulscope Recording Temperature Controllers.

We're especially proud of these Fulscopes, because it was years ago that we installed them for the famous New England mill where this picture was taken—and they're still going strong! It's a tribute, we think, to the ruggedness and versatility of this instrument—and if you're interested, our latest models are even more so! For raw stock, a setup like this is just the ticket. If your problem is more complicated—if for example you have a variation in fibres or want to use your machines for dyeing packages as well—you probably need a Taylor Fulscope Time Schedule Controller. Ask your Taylor Field Engineer or write Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada. *Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.*

ARMY ★ E ★ NAVY

Taylor Instruments

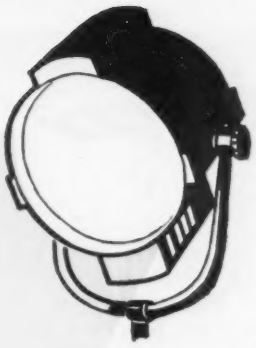
MEAN

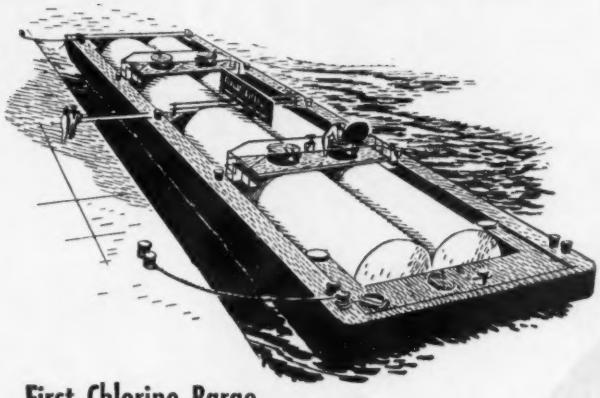
ACCURACY FIRST

IN HOME AND INDUSTRY

BUY ANOTHER WAR BOND TODAY!

Columbia Spotlight

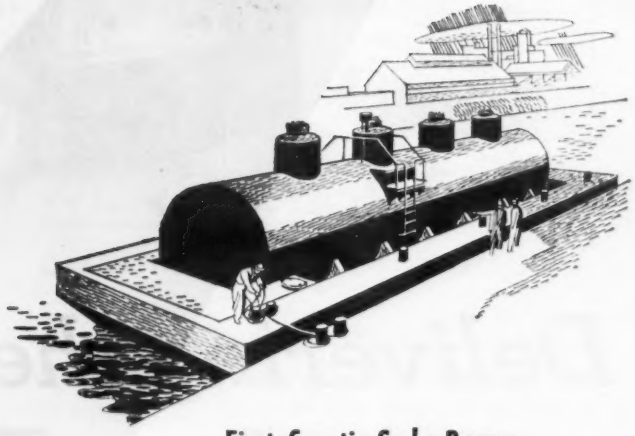




First Chlorine Barge

Newest development in the transportation of Liquid Chlorine is this barge, especially designed by Columbia to facilitate shipments via inland waterways. All river shipments of this chemical were previously limited to one-ton containers—a slow, tedious and costly method by comparison.

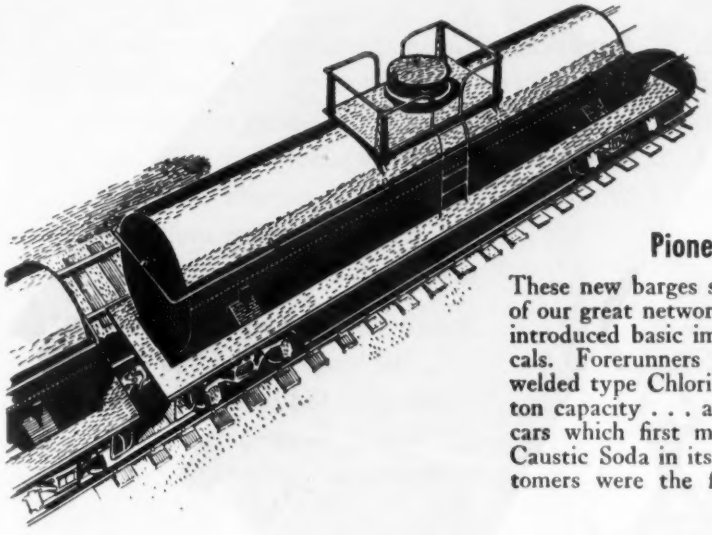
Cradling four fusion welded steel tanks in its 135-foot steel hull, the new barge has a capacity of 380 tons of Liquid Chlorine. It may be loaded or unloaded from either side; connections are so designed as to prevent manifolding of the tanks.



First Caustic Soda Barge

Another 135-foot barge has just been placed in service by Columbia. This one, the first designed specifically for Caustic Soda, will carry approximately 500 tons of Caustic Liquor. Its huge, welded tank is supported by suitable framework in a heavy steel hull.

Foamglas insulation guards the Caustic from freezing and a caustic resistant lining prevents metallic contamination of the chemical in transit.



Pioneer in Better Transportation

These new barges show the way to the more advantageous use of our great network of inland waterways. Similarly, Columbia introduced basic improvements in rail transportation of chemicals. Forerunners of these barges were Columbia's fusion welded type Chlorine tank cars . . . then Chlorine cars of 55 ton capacity . . . and the insulated and specially lined welded cars which first made possible the shipment of 73% Liquid Caustic Soda in its purest form. In every case, Columbia customers were the first to profit by these innovations.

COLUMBIA CHEMICALS

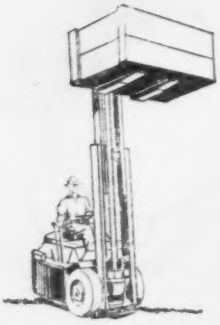
PITTSBURGH PLATE GLASS COMPANY · COLUMBIA CHEMICAL DIVISION

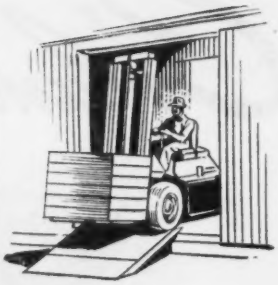
GRANT BUILDING, PITTSBURGH 19, PENNSYLVANIA

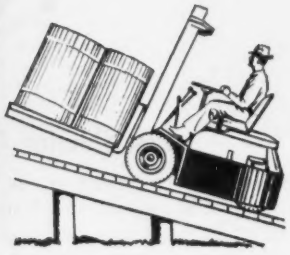
Chicago · Boston · St. Louis · Pittsburgh · New York · Cincinnati · Cleveland · Philadelphia · Minneapolis · Charlotte · Los Angeles

COLUMBIA ESSENTIAL INDUSTRIAL CHEMICALS

Soda Ash · Caustic Soda · Sodium Bicarbonate · Liquid Chlorine · Silene EF (Hydrated Calcium Silicate) · Calcium Chloride · Soda Briquettes Modified Sodas · Caustic Ash · Phosflake · Calcene T (Precipitated Calcium Carbonate) · Calcium Hypochlorite







Delivering the goods from **EVERY ANGLE**

Its performance is positively uncanny! In stop-watch time, the HYSTER 20 Fork Lift Truck deftly picks up heavy loads and speeds them in a bee-line to destination. It unloads mechanically — to floor, raised platform, aboard trucks, freight cars — or tiers loads in neat, high piles in storage warehouse.

Up or down inclines, loads are handled with sureness and safety. Fully loaded, the "20" will climb a 16-degree ramp incline. A carrying tilt for loads is provided — three degrees forward, ten backward.

Easy-riding pneumatic tires insure maximum traction on or off the pavement. Trunnion steering permits sharp, close turning — with minimum operating alley of 66 inches. The ideal truck for narrow aisles. With standard controls, anyone can operate the HYSTER 20. Dual water muffler eliminates possible fire hazards.

Before you buy, investigate HYSTERS . . . the progressive line of Fork Lift Trucks adopted as standard equipment by many leading industrial plants everywhere.

HYSTER
FOR ANY LIFT OR PULL

BRANCH OFFICES: 221 N. LaSalle Street, Chicago 1, Ill.; 90 West St., New York 6, N. Y.; 1022 Denrike Bldg., Washington 5, D. C.; 233 Ninth St., San Francisco 3, Calif.; Masonic Bldg., New Orleans 12, La.; 2219 Fourth Avenue, Seattle 1, Wash.; 2700 Santa Fe Ave., Los Angeles 11, Calif.; 215 Euclid Ave., Cleveland 14, Ohio; 211 Farnsworth Bldg., Memphis 3, Tenn.

HYSTER *Company*

2922 N. E. Clackamas
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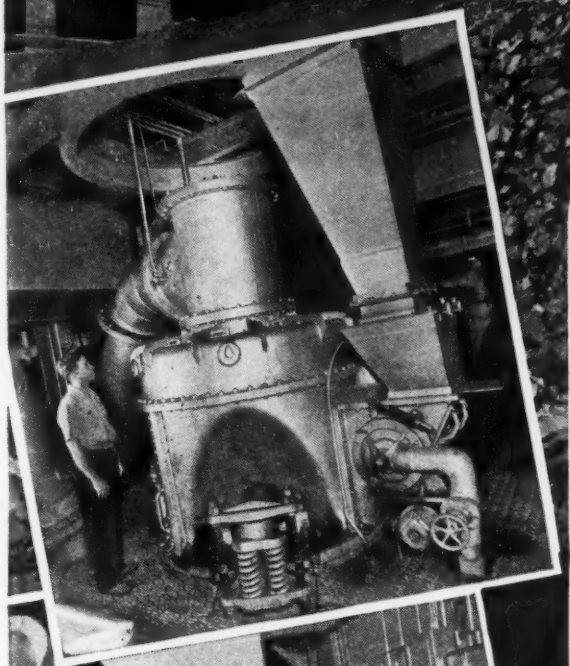
1822 North Adams
PEORIA 1, ILLINOIS

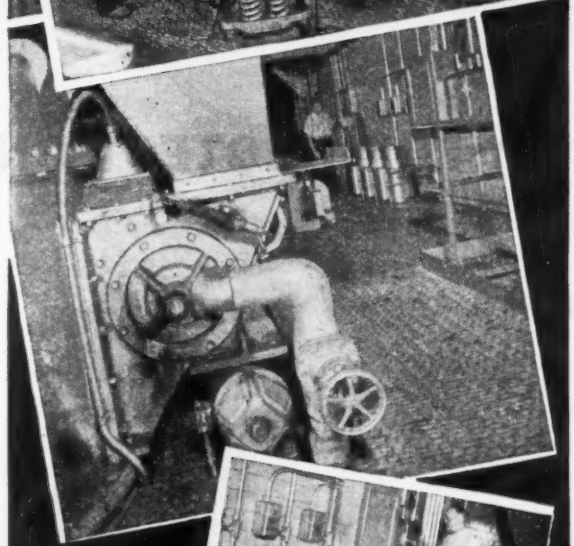
Pioneer manufacturers of mobile materials handling machines: fork lift trucks, crane trucks and straddle trucks. All gasoline powered; all pneumatic tire mounted.

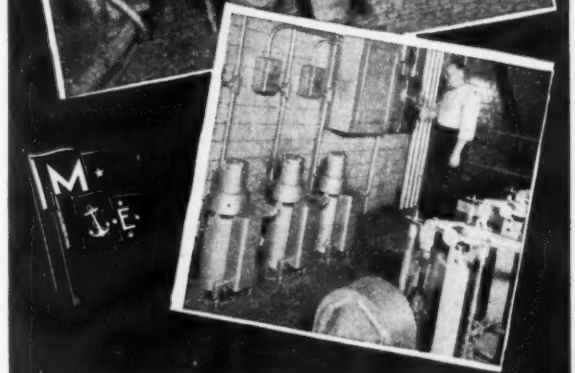
245-21

"MOTOR-DRIVE IS MORE THAN POWER"

RELIANCE V★S DRIVE







INVESTIGATE THE POSSIBILITIES of *All-Electric* V★S DRIVE

OPERATING FROM A-c. CIRCUITS!

CONSTANT MAINTENANCE of a desired steam pressure from boilers is important in power company operation. To you, who may not need to worry about this problem, the fact that it is being handled automatically with the help of Reliance V★S Drive should nevertheless be interesting. It is a good indication of the wide variety of uses to which V★S Drive may be put.

"Reliance V★S" is an all-electric, adjustable-speed drive for A-c. circuits that provides for starting, stopping, speed-changing, smooth acceleration and deceleration, jogging, inching and other operations. All are centrally controlled from a conveniently located panel. Production machinery output is being increased, quality and uniformity of products improved, operator fatigue decreased and operation and maintenance costs lowered by many V★S Drive applications in many industries.

If you haven't investigated Reliance V★S Drive in relation to your own work, we suggest that you call in a Reliance Application Engineer.

RELIANCE ELECTRIC & ENGINEERING CO.

1086 Ivanhoe Road · Cleveland 10, Ohio

Birmingham • Boston • Buffalo • Chicago • Cincinnati • Detroit • Greenville (S. C.) • Houston
Kalamazoo • Los Angeles • Minneapolis • New York • Philadelphia • Pittsburgh • Portland (Ore.)
St. Louis • San Francisco • Syracuse • Washington, D. C. • and other principal cities

Each of the 14-ton-per-hour mills (upper photo) serves one 500,000 pound-per-hour boiler. Amount of coal fed into each mill, and thence to its boiler, is regulated by a Reliance V★S Drive unit, three of which are shown in above illustrations.

RELIANCE A-C D-C MOTORS

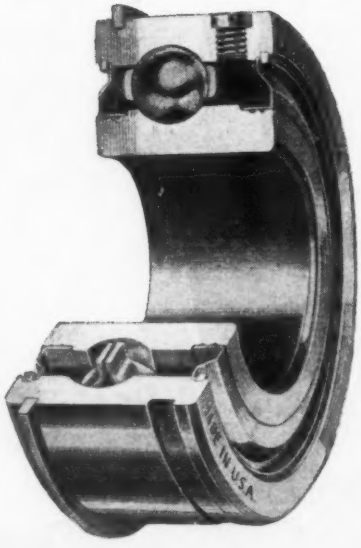
NATURE *proudes*

...EXTRA GREASE CAPACITY FOR PROTECTION

But — among "Self-Protected" and "Sealed" bearings it's the NORMA-HOFFMANN "CARTRIDGE" BALL BEARING that provides that extra—more than double—grease capacity so vital to long life, low maintenance and minimum attention.

• • •

There are many other distinctive — and equally valuable — features, in the "CARTRIDGE" Bearing.



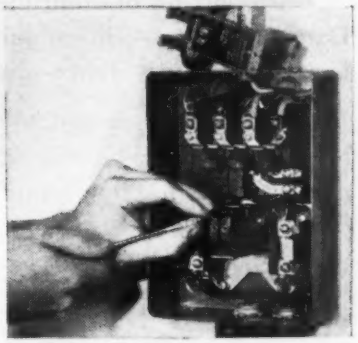
Write for full details to our nearest office. Or,—better yet—ask them to send one of our engineers to discuss your bearing problem—in strict confidence, of course.

NORMA-HOFFMANN BEARINGS CORP'N. STAMFORD, CONN. *Founded* 1911

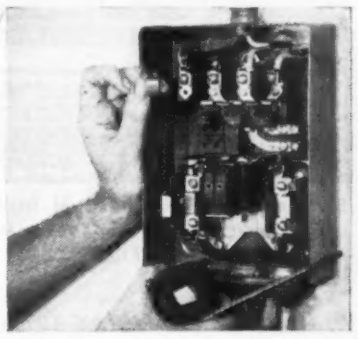
Field Offices: NEW YORK • CHICAGO • CLEVELAND • CINCINNATI • PITTSBURGH • DETROIT • LOS ANGELES • SAN FRANCISCO • SEATTLE, WASH.

Here's a Starter You Can Really Get At!

Loosen two screws and the arc chamber cover comes off. You can inspect every contact surface at a glance.



The entire armature and movable contact assembly can be lifted off after two more screws come out. You can easily slip off the magnet coil after disconnecting two wires from its screw type terminals.



Contacts are attached with separate screws—you can remove or replace them without disturbing any wiring—and a screw driver is all you need.

Peak operating efficiency and long life of electric motor starting equipment depend largely upon regular inspection and occasional servicing. Today, with every minute at a premium, this inspection and servicing job is more important than ever.

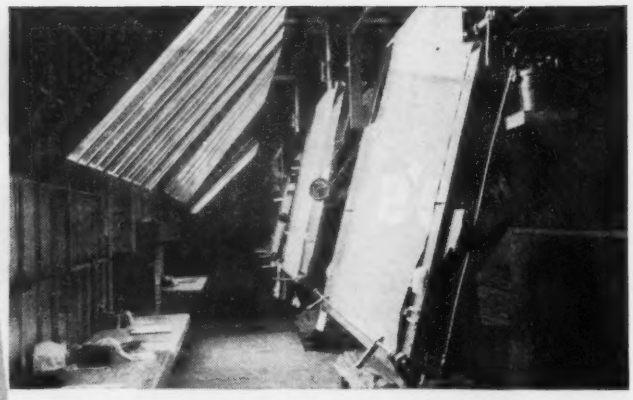
The complete accessibility of Square D starters means faster, easier inspection and servicing. Their simple construction enables the electrician to exchange magnet coils, contacts or overload relays in practically no time at all—using only a screw driver.

Write for Catalog Bulletin 8536 which describes Square D's complete line of A.C. magnetic starters. The starter illustrated is Size I for 3 phase motors up to 5 HP. at 220 volts or 7½ HP. at 440 volts. One smaller, and three larger sizes are also available.

SQUARE D COMPANY

DETROIT • MILWAUKEE • LOS ANGELES

Turn Light Output into MILL PRODUCTION

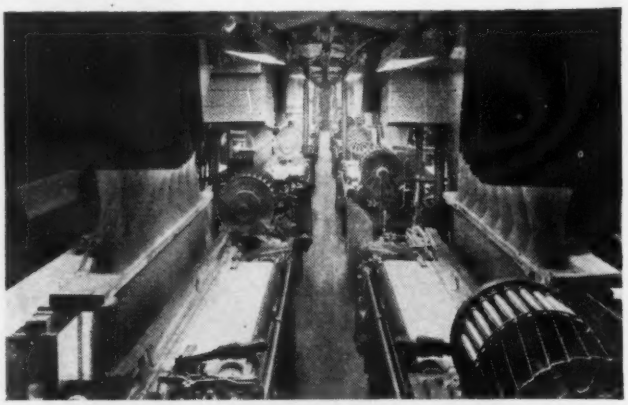


Breaks, snags and flaws can be detected instantly and close inspection work brought to new levels of efficiency —with daylight quality G-E Fluorescent lamps.

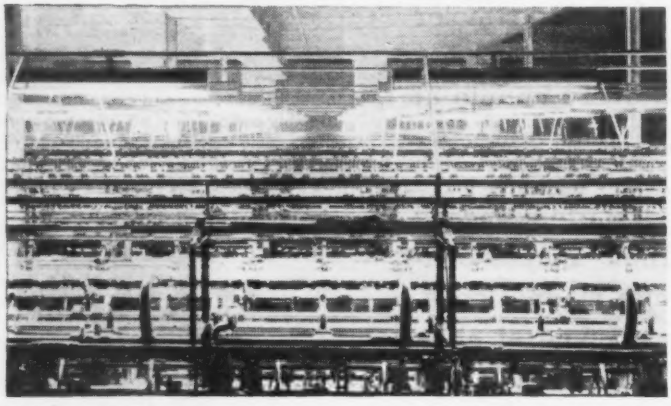
Better lighting—properly applied—may easily prove to be one of your most useful tools to speed mill output . . . to reduce costs . . . to cut rejects and improve morale. That's because good lighting—with G-E Mazda Lamps —makes seeing easier, faster and more accurate.

Take the typical examples pictured here. Today—with the introduction of controlled lighting, thanks to G-E Lamp Engineers—almost innumerable mill operations have achieved far higher speed and accuracy.

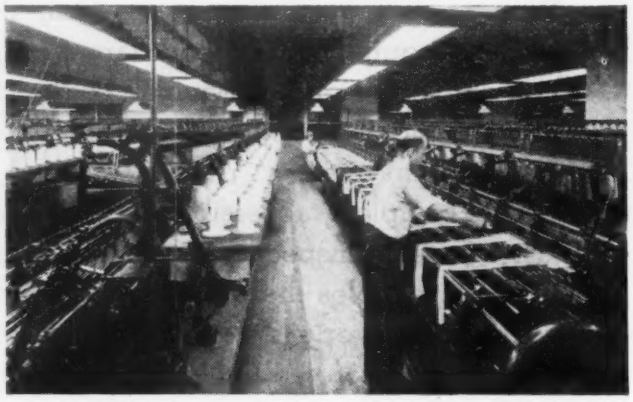
But—what about *your* mill? Why not consult a G-E Lamp engineer. He may be able to offer a helpful idea to increase production now—and boost your profits later on.



Higher production starts with high foot candles. G-E Mazda F lamps help get ample light in and around intricate parts of this battery of jacquard looms.



Soft, cool fluorescent light from G-E Mazda F lamps makes seeing easier, helps hands move faster. Perhaps fluorescent lighting can help your mills.



Efficient G-E Fluorescent lamps help hold costs in line, improve worker morale. Long light sources minimize confusing shadows, reduce discomfort.

"To Make G-E Lamps ***STAY BRIGHTER LONGER"*** *The Constant Aim of G-E Lamp Research*

G-E MAZDA LAMPS

GENERAL ELECTRIC

BUY WAR BONDS

Hear the G-E radio programs: "The G-E All-Girl Orchestra", Sunday 10:00 p. m. EWT, NBC; "The World Today" news, Monday through Friday 6:45 p. m. EWT, CBS; "The G-E Houseparty," Monday through Friday 4:00 p. m. EWT, CBS.

if so, here's help!

SHOW HOW

There you have it, the answer is COMPRESSED AIR. Every plant foreman should have a copy of this booklet — it is a clearing house of ideas for production men.

Write or phone the company or any of its branches today for your copy; it is yours for the asking.

Ingersoll-Rand
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Please Send Us a Copy of Bulletin
"A LITTLE AIR POWER WILL DO MANY A BIG JOB"

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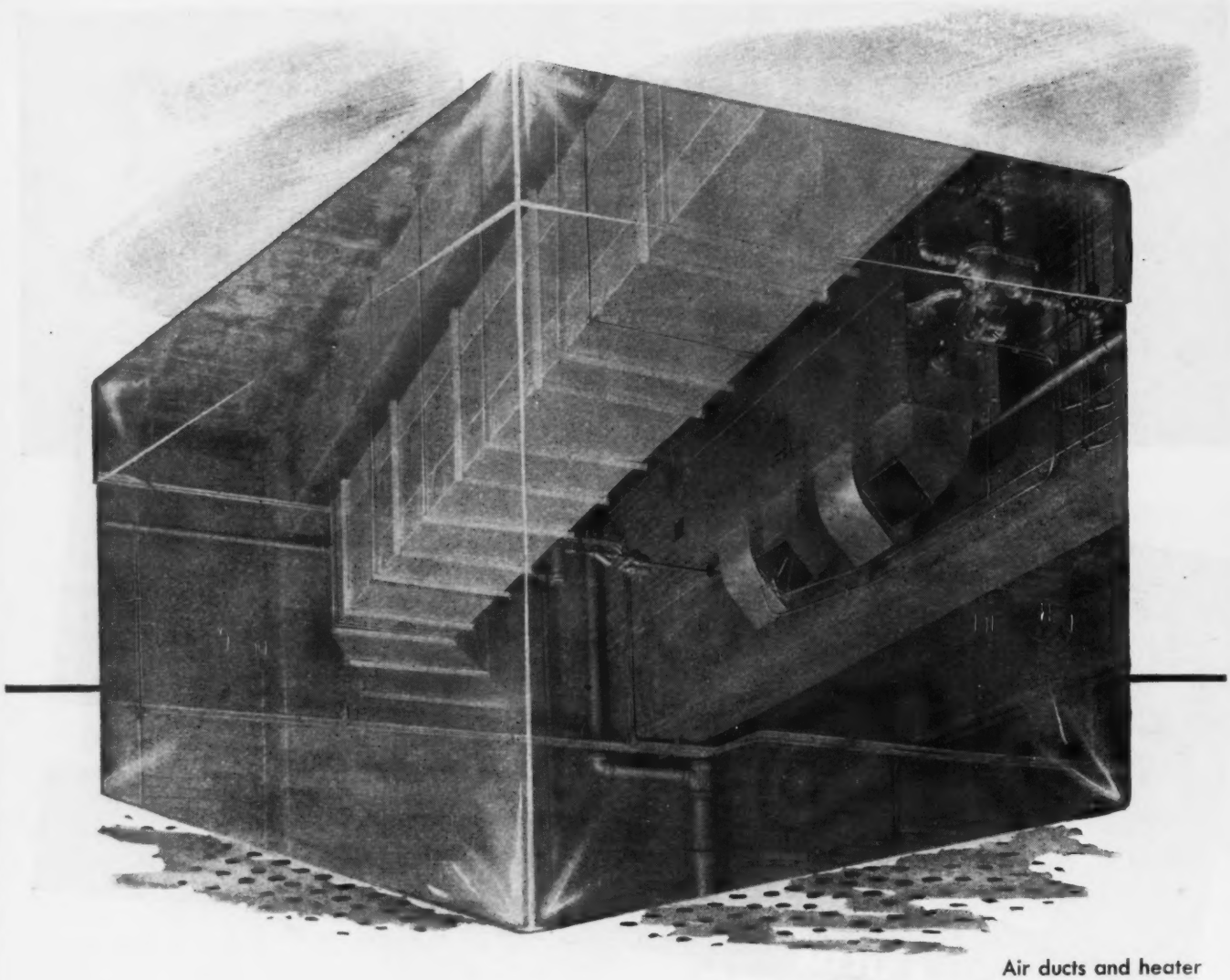

Air ducts and heater
housings made of Alcoa Aluminum sheet

Conditioned Air

DELIVERED IN A DE LUXE PACKAGE

Aluminum ducts add to the appearance of an installation. The metal can be left bare, as above, or it can be painted.

Where humidities are high, moisture which settles on aluminum ducts stays colorless. You avoid drip stains.

Because aluminum is highly resistant to corrosion, aluminum ducts, hoods and housings have long life. Upkeep is low. Because aluminum is light in weight, installation is simplified. Your local sheet metal worker can fabricate aluminum for you. ALUMINUM COMPANY OF AMERICA, 1942 Gulf Building, Pittsburgh 19, Pennsylvania.

ALCOA FIRST IN ALUMINUM

Creel Weights
(a complete line)
Harness
Studs
(a complete line)
Lock Hooks
(a complete line)
Some of the
Important Small
(Quality) Loom
Harness Accessories
you can obtain—bearing the
Ste-Hed-Co
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Entering
Hooks
(a complete line)
Heddle Rod Hangers
(a complete line)
Drop Wires
(a complete line)
Slide Hooks
(a complete line)
Pigtail
Thread Guide
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Eye Bolts
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Doup Yokes
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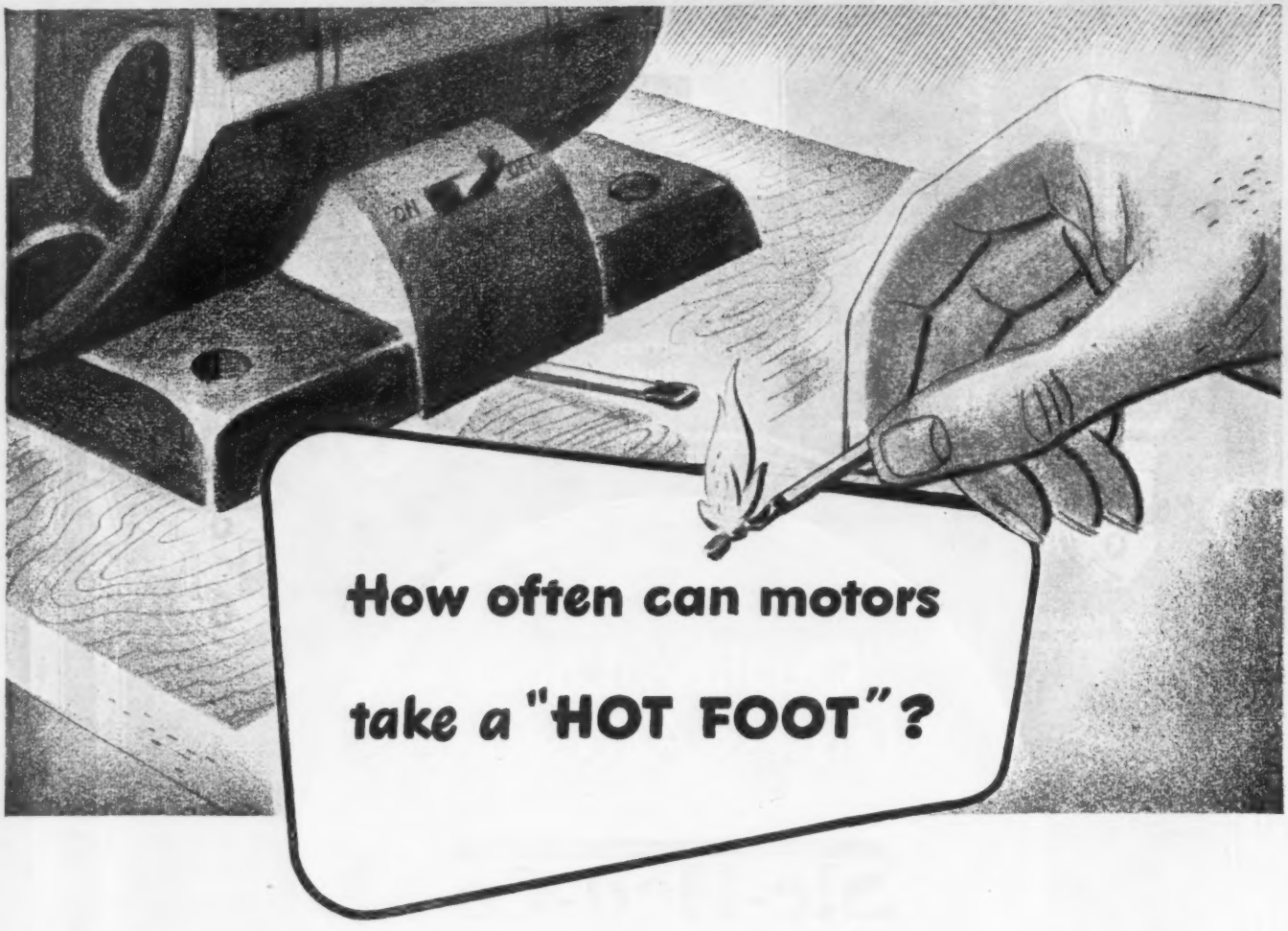
Doup Spacer
(a complete line)
Tempered Steel Heddle Bar



Overloads, dirt, corrosive acids, heat, moisture *and the human element* can all play tricks on even the best designed motors. Any one, or a combination of them, can give your motor a "hot foot" once too often, then — failure.

Most motors are designed, by experts, to do their specific jobs efficiently. Most of them are built to give trouble-free service and to operate economically. Without the motor manufacturers' design and production skill American industry would be at a standstill today. Yet, the records show that motor failure still imposes an extremely heavy time and dollar loss on every industry.

Fiberglas* Electrical Insulation Materials have proved their ability to protect motors of all types from the conditions which cause a majority of the failures. They provide that "extra" protection which assures longer, more economical operation and decreases down time and its consequent production losses.

Fiberglas Insulation cuts rewind shutdowns

Typical of the advantages which Fiberglas Insulation provides is this experience of a concern in the metal-working industry.

A manufacturer of automotive parts was using 3 h-p, squirrel-cage, 3600 rpm motors to drive fans for operator and hot stock cooling. The motors were operated in high ambient temperatures and exposed to dust, grit and metal scale. The motors were failing at sixty-day intervals. Operators complained and the production line was slowed down while motors were being replaced and rewound.

Then these motors were rewound with the same size and type of wire, but with Fiberglas Insulation throughout. They have been in operation for over a year, with no failures to date.

And remember, the only added cost in rewinding with Fiberglas is the slight difference in the cost of the insulating materials.

Fiberglas Electrical Insulation Materials, in plain and treated forms, are available now. For complete information consult your distributor or write for new catalog. *Owens-Corning Fiberglas Corporation, 1864 Nicholas Bldg., Toledo 1, Ohio. In Canada, Fiberglas Canada Ltd., Oshawa, Ontario.*

* * *

BE SURE TO SEE THE FIBERGLAS ELECTRICAL INSULATION MATERIAL EXHIBIT

THE NEXT SHOWINGS ARE: Bellevue Stratford, Philadelphia, January 30-February 2; Belvedere, Baltimore, February 7-8; Hotel Roosevelt, Pittsburgh, February 19-21; Hotel Statler, Buffalo, February 27-March 1; Biltmore, Dayton, March 7-8; Netherlands Plaza, Cincinnati, March 13-15. Further showings will be announced later.

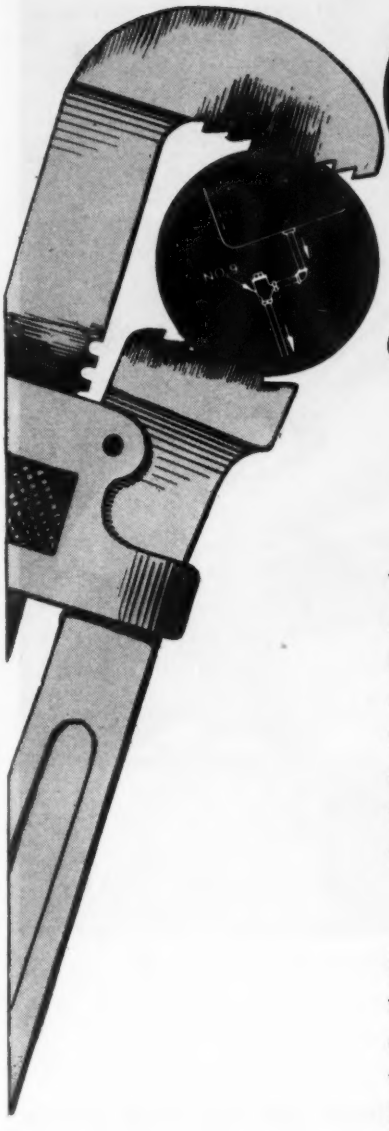
ASK FOR FIBERGLAS—IN YOUR NEXT NEW MOTOR—AND ON YOUR NEXT REWIND

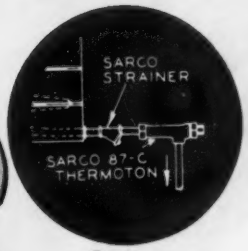
FIBERGLAS *ELECTRICAL INSULATION*

*T. M. Reg. U. S. Pat. Off.

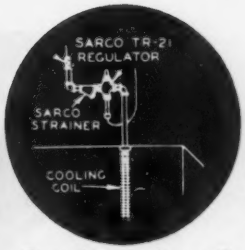
THERE'S A COMPLETE LINE OF FIBERGLAS ELECTRICAL INSULATIONS

YARNS • TAPES • CORD • SLEEVING • CLOTH AND OTHER FORMS. Also available in: Magnet wire, Lead wire, Special wires, Varnished cloth and tape; Mica Combinations: Laminates, Saturated sleeving, Varnished tubing, Pressure sensitive tapes, Special products.

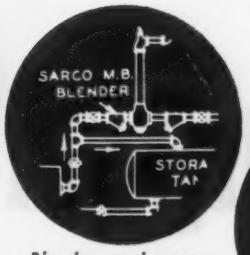




Strainer



Controlling cooling coil

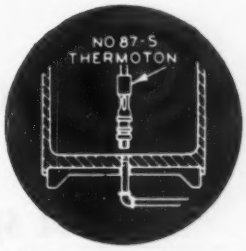


Blender on showers

Controlling solvent still

at the TWIST *of a* WRIST

Whenever a steam fitter breaks a line and inserts a Sarco strainer, a steam trap or a temperature control, he makes a permanent contribution to the efficiency of that part of the plant. Increased output of the steam equipment, dependable operation, increased quality of the product and the fuel savings that invariably follow will go on for years as a result of an hour's work.



Heating water with 87-S

IT'S TIME TO CONSIDER

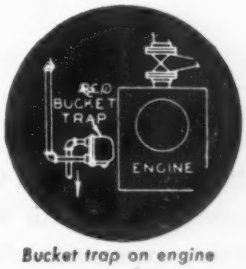
Steam helped the war effort, but steam *economy* will be necessary for industrial survival in peace. All over the plant, you will find spots where the man with the wrench can easily insert inexpensive Sarco Steam Savers that were overlooked or not available at the time.

FT trap on cooker

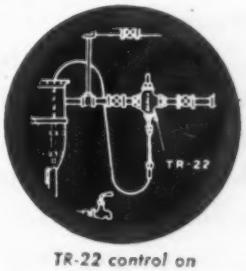
HOW TO BEGIN

Easy does it. Call in the Sarco representative for a re-check on your steam engineering. Order a supply of the traps you need. Then, during shut-downs or long week-ends, the man with the wrench can slip them in. Before you realize it, your plant will be on the way to post-war competitive efficiency.

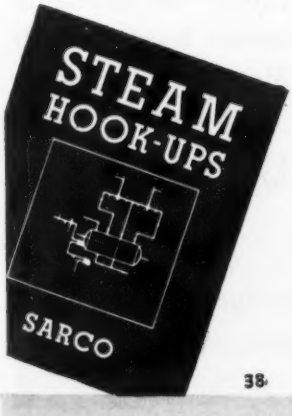
Then you can go after the temperature controls and some of the applications which are suggested in the circles above.



Bucket trap on engine supply



TR-22 control on Kettle



38

SARCO COMPANY, INC.
475 FIFTH AVENUE
NEW YORK 17, N. Y.

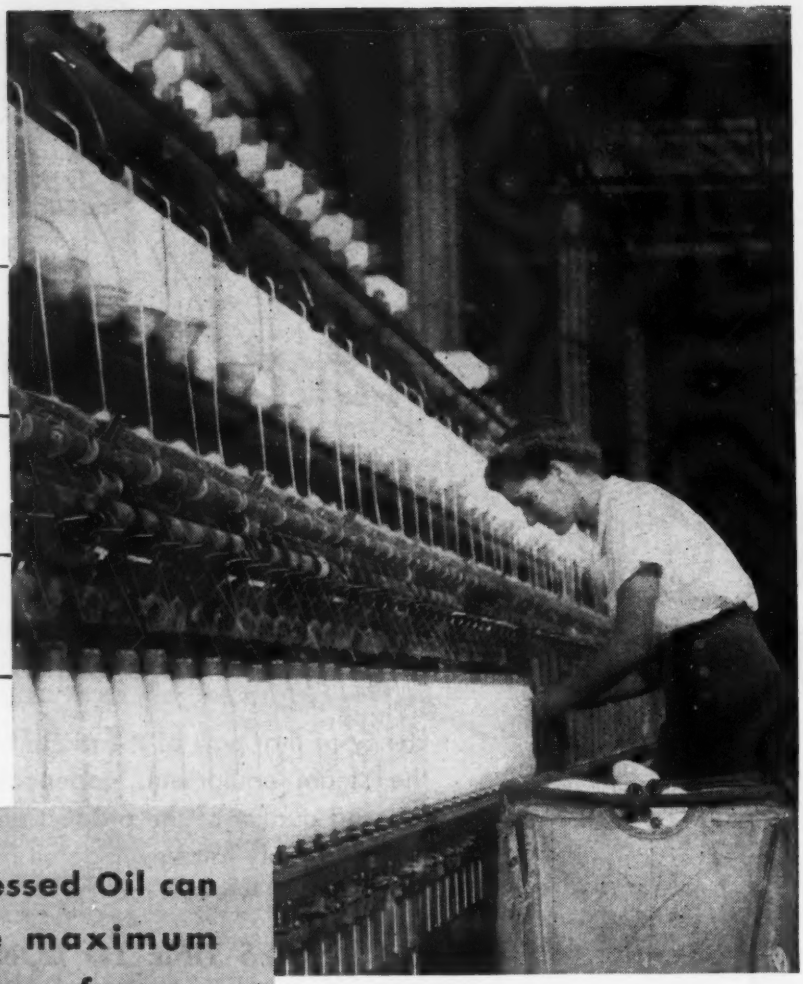
Represented in Principal Cities

SARCO Saves Steam

SARCO CANADA, LTD., 85 Richmond Street, West, TORONTO, ONTARIO

Gulfgem Oil

provides better lubrication for spindles



This Alchlor-Processed Oil can help you insure maximum poundage from your frames

BETTER spindle lubrication means less wear, fewer bolster renewals, and reduced end breakage! That is why hundreds of leading mills specify Gulfgem Oil for spindles—they know from experience that this Alchlor-Processed Oil helps keep poundage up and maintenance costs down.

Superrefining by the Alchlor Process puts Gulfgem Oil in a class by itself as a spindle lubricant—gives it the superior lubricating value and long life that insures minimum down time for spinning frames.

It will pay every mill to learn the full protective maintenance possibilities of this highest quality spindle lubricant. Ask the Gulf Service Engineer in your vicinity to give you details.

Gulfgem Oil—and the more than 400 other quality lubricants in the Gulf line—are available to you through 1200 warehouses located in 30 states from Maine to New Mexico. Write, wire, or phone your nearest Gulf office today.

FOR VICTORY BUY UNITED STATES WAR BONDS AND STAMPS

It will pay you to investigate—call in a Gulf Lubrication Service Engineer

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GULF OIL CORPORATION · GULF REFINING COMPANY

GULF BUILDING, PITTSBURGH 30, PA.

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for quality textile chemicals

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Sulfuric Acid	Tetrasodium Pyrophosphate
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Glauber's Salt	Sodium Sulfide
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WHAT HAS OTIS ELEVATOR COMPANY BEEN DOING?

...and what are they PREPARED to do?

The factories of the Otis Elevator Company have been devoted one hundred per cent to the war effort. That's not unique. That's the pattern of American industry.

however...

In addition to our large scale production of a great variety of highly precise mechanisms of war for the Army, Navy, and the Air Corps, we have continued to produce elevators. We have manufactured freight as well as passenger elevators for hospitals, ordnance depots, naval warehouses, and other priority installations.

this means...

Although our facilities, organization, and resources have enlisted for the duration and have gone all out for war production *as a matter of actual fact we have never been out of the business of manufacturing, installing, and servicing elevators.*

and so...

As our war work is reduced or terminated, this company is prepared — with no change in pace, and without missing a stride — to resume furnishing the highest quality elevators and escalators for all peacetime purposes.

Otis ELEVATOR COMPANY

OFFICES IN ALL PRINCIPAL CITIES

Miss Leora Jackson has decided to *stay*---

Last week she was all ready to quit her job as spinning hand, and it was easy to see why. End breakage had her dizzy, travelers were flying off by dozens, and by noon she felt as though she had worked three shifts. The section hand looked sour, and Leora was close to tears.

Then a man* came in with the overseer to look at the spinning. A couple of days later, after some cleaning and adjustments the man had recommended, some new Victor Travelers were tried out. They worked like a charm, and now her spinning is as sweet-running as any she ever saw. The smile is back on Leora's face, and — what's most important — *she has decided to stay on the job.*

*__THE VICTOR SERVICE ENGINEER__ is the man whose advice helped take the grief out of Leora's job. He knows that keeping the "Leoras" content is a number one problem in every mill today. When he helps you smooth up spinning or twisting, he not only pleases Leora — he also pleases everyone else concerned . . . including the front office, and the customers who are pressing for better deliveries of top quality goods.

__MILL MEN WHO FACE THE SAME TOUGH PROBLEMS__ you do, and who know the importance of the *right* traveler, have chosen Victor Travelers for over 8,000,000 spindles of spinning and twisting — ample proof that Victors pay off in performance.

__YOUR PROBLEM__ may need just the kind of resourceful cooperation the Victor Service Engineer is ready to give you. You'll find him thoroughly mill-trained — a man who "talks your language" — and fully equipped with information on handling all types of fibers, including the newest, under present conditions. Write, wire, or phone the nearest Victor office . . . for *prompt* service.

Victor Ring Traveler Company

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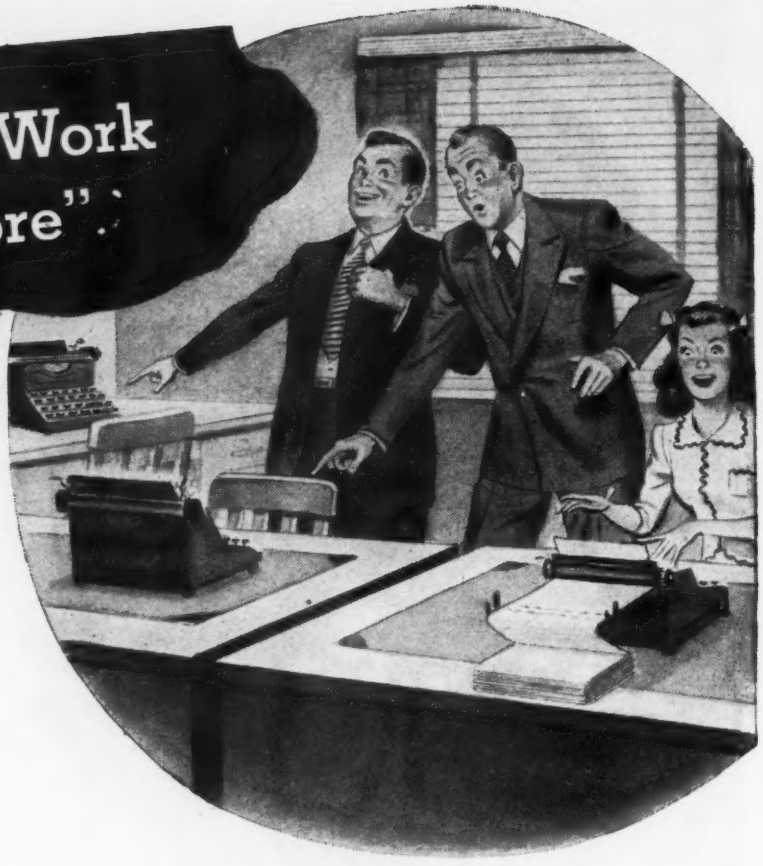
VICTOR Ring Travelers

"Annie Doesn't Work Here Any More"



Nor does Tillie, her assistant. Both were moved to another department. Why? Well, by combining records with Uarco **continuous-strip** forms, *one* person can handle the record writing for all departments. Results show a rise in efficiency . . . time saved . . . fewer errors.

Combine Records with UARCO Continuous-Strip Forms

For example, with Uarco **continuous-strip** forms, a system—consisting of an invoice in duplicate, a sales department copy, a statistical copy, a bookkeeping copy, a delivery receipt in duplicate, a packing slip and shipping label—was combined into one *writing.* Hence, one person at one typing handled all the record writing. Saved time and expense as well as eliminating the confusion and errors caused by *separate* writing of the *same* information.

However, Uarco **continuous-strip** forms are tailor-made to meet *individual* problems. Different problems are solved by different Uarco records. Briefly, these record forms are perfectly aligned, multiple-copy forms which are scientifically designed to eliminate errors and needless duplication of work . . . record forms that keep the flow of work moving smoothly, efficiently.

It will cost you nothing to have a Uarco representative work with you. Telephone today . . . or write for added information.

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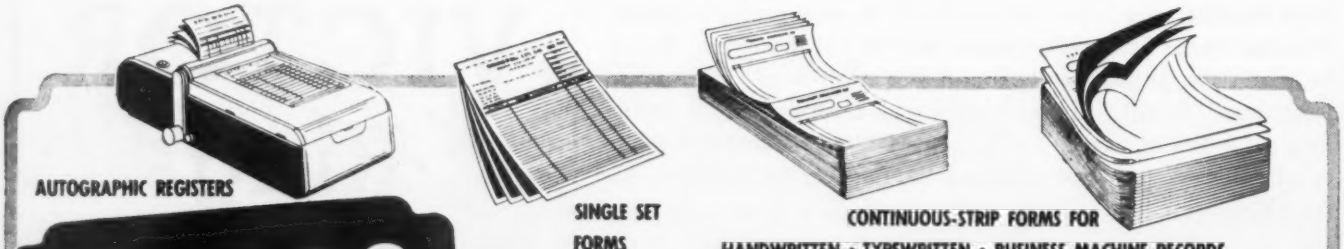
Chicago, Cleveland, Oakland • *Offices in All Principal Cities*



UARCO

BETTER BUSINESS RECORDS

the dramatic story of ALUMINUM

HERE is a 34-minute educational film on aluminum that is jam-packed with interesting information on its processing . . . from the mining of bauxite, refining it to alumina, reducing the oxide to metal . . . right on through to the rolling of sheet, rod and bar . . . and the manufacture of fabricated parts.

This film, titled "A Recital of Faith," portrays the great advances in aluminum technology during the war years, and the infinite possibilities for aluminum in the post-war world.

Underlined is the part Reynolds Metals is prepared to play in co-operation with engineers and manufacturers who are now using, or plan to use aluminum, and the new lightweight, high-strength aluminum alloys.

Showings easily arranged

Every audience that has seen "A Recital of Faith" has praised it in glowing terms. It is now available, without charge, for showings before technical groups, engineering societies and manufacturers . . . 35 mm. or 16 mm.

For full information, just write Reynolds Metals Company, Aluminum Division, 2500 South Third St., Louisville 1, Ky. On your letterhead, please.

REYNOLDS METALS

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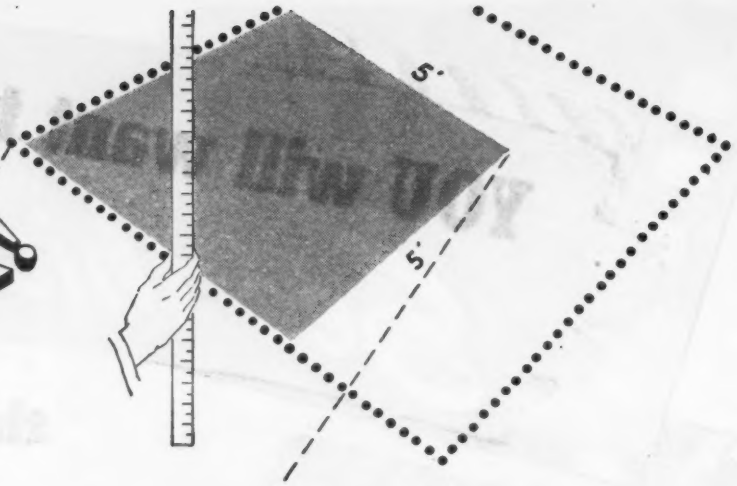
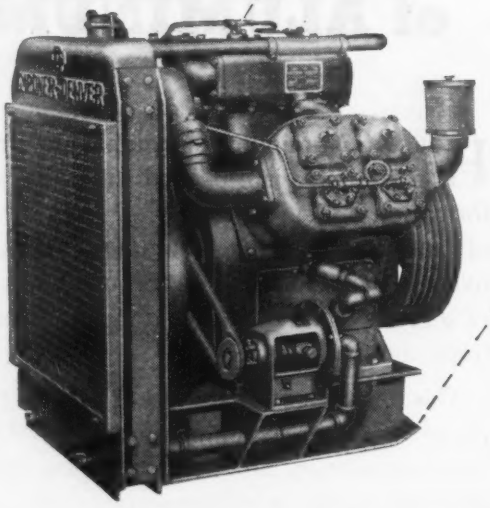
The Great New Source of

INGOT · SHEET · SHAPES · WIRE · ROD · TUBING · FORGINGS · CASTINGS · PASTE · FOIL · POWDER

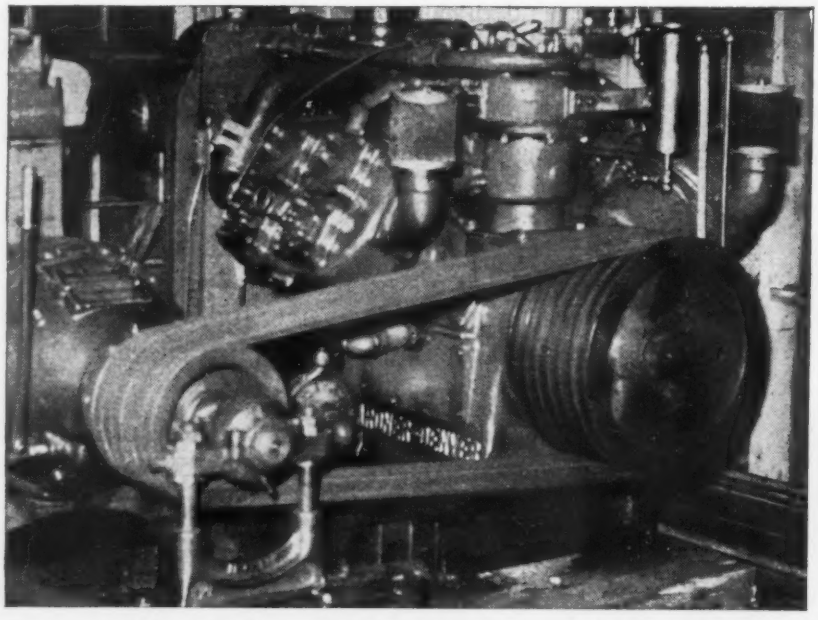
SPACE SAVER!





Five square feet! That's all the floor space needed for the Gardner-Denver "WB" Water-Cooled Vertical Compressor. Yet, despite this unusual compactness, there has been no sacrifice in efficiency. The "WB" will operate at efficiencies comparable to those of large two-stage horizontal compressors.

A distinctive design with two small- rather than one large-diameter, low-pressure cylinder, in conjunction with each high-pressure cylinder, permits the use of small, lightweight pistons in all cylinders. This construction considerably decreases the inertia load and makes possible a reduction in compressor dimensions without sacrificing capacity.



Gardner-Denver Company, Quincy, Ill.; Atlanta, Ga.; Birmingham, Ala.; Boston, Mass.; Hazleton, Pa.; Knoxville, Tenn.; Washington, D. C.; New York, N.Y.; Philadelphia, Penn.; Pittsburgh, Penn.

OTHER "WB" FEATURES

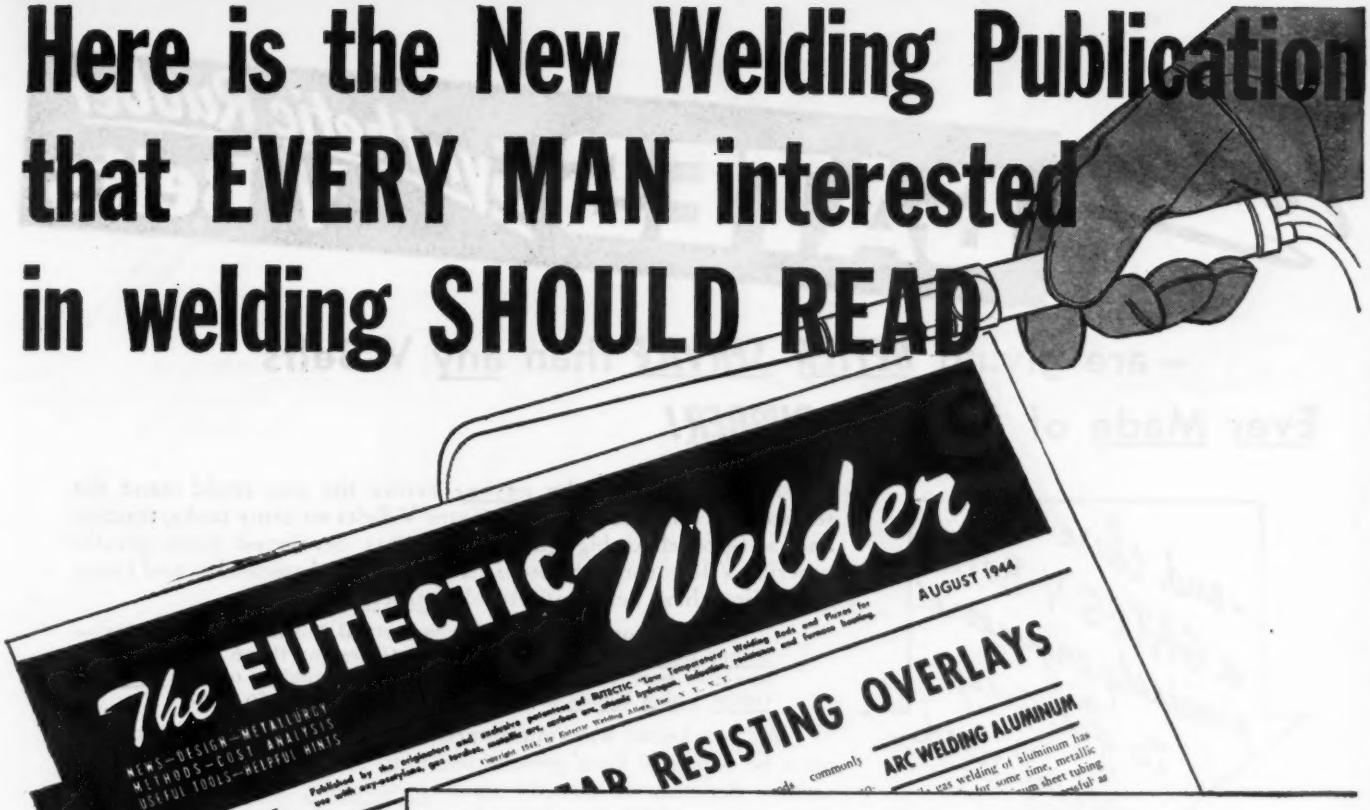
1. Completely water-cooled cylinders and combination radiator and air-cooled intercooler assure a cool-running compressor . . . save lubricating oil and assure lower discharge temperatures.
2. Drop forged crankshafts mounted on Timken roller main bearings for smooth operation.
3. Efficiency not affected by altitude or temperature change.
4. Available with built-in motor or can be furnished for V-belt or direct drive.
5. Efficient "clean-air" after-cooler removes moisture from air and further reduces air temperatures for longer life on hoses and tools. Available as additional equipment.

PAVING BREAKERS

Gardner-Denver Paving Breakers deliver a fast, powerful blow that helps speed industrial demolition work.

GARDNER-DENVER *Since 1859*

Here is the New Welding Publication that EVERY MAN interested in welding SHOULD READ



These features each month keep you posted on all developments and up-to-the-minute welding news

- ★ WELDING METALLURGY
- ★ WELDING DESIGN
- ★ PRODUCTION IDEAS
- ★ SALVAGING TOOLS
- ★ NEW MAINTENANCE IDEAS
- ★ USEFUL TRICKS AND TOOLS

..and here is WHY you should send for it TODAY!

EUTECTIC *Low Temperature* Welding is NEW! It is one of the most *revolutionary welding developments* of modern times and *The Eutectic Welder* is the only publication that tells you all about it.

Welding at temperatures below the fusion point of base metals is made possible by employing the phenomenon of surface alloying. Joints welded with EUTECTIC *Low Temperature* Welding Rods are *smoother, stronger, better color matched* and *more machinable* than those obtainable *by any other welding or brazing process.*

All metals can be joined by EUTECTIC *Low Temperature* Welding. No special skill is required. All standard methods of heating are employed: gas—arc—furnace and others.

Be the first to introduce the EUTECTIC *Low Temperature* Welding process and its great advantages into your company. Write for *your* copy of *The Eutectic Welder* TODAY! Fill in and mail the coupon or write on your company letterhead and your copy will be sent FREE by return mail. Thereafter you will receive it regularly every month.

The Eutectic Welder is published by the Engineering and Research staff of the Eutectic Welding Alloys Company and is supplemented by valuable contributions from enthusiastic users in all fields of industry and manufacturing.

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—are giving *BETTER SERVICE* than any V-Belts Ever Made of *NATURAL RUBBER!*

-and there is a GATES V-Belt precisely engineered to fit any special need

No V-Belts built by *anyone* before the war could stand the service now daily delivered by Gates V-Belts on army tanks, tractors and self-propelled big guns. Gates has developed these greatly superior VBelts through intensified, specialized research—and Gates is building these belts entirely of *synthetic rubber!*

The important point, for industrial V-Belt users, is this:—Every improvement developed by Gates for these Army V-Belts has also been added, day by day, to the quality of the standard Gates Vulco Ropes which have been delivered to you.

As you know, war-time improvements in many *other* products must be withheld from general use until after the war is won—but victory depends so directly upon *production*, and production so directly upon V-Belts which drive the producing machines, that Gates has been able to give you *immediately*, in your Standard Gates Vulco Ropes, every V-Belt improvement which Gates specialized research has developed for use in the Army's motorized equipment.

In addition, where V-Belts of special construction are required, your Gates Rubber Engineer is in position to supply a Gates V-Belt that is precisely engineered to meet your special needs.

Whatever drive problem or V-Belt problem you may have, you need only pick up your phone book and look under the heading "Gates Rubber." The Gates Rubber Engineer will bring right into your plant the full benefits of every advance in V-Belt construction and in drive operation that Gates specialized research has developed.

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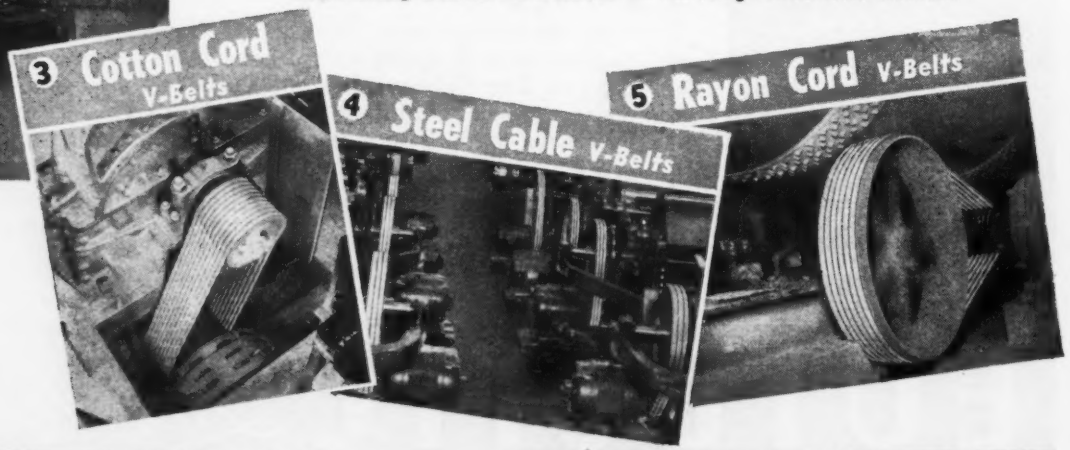
Engineering Offices and Stocks in All Large Industrial Centers



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What to do about Rust?

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Immerse any rusty nail in a small quantity of Cities Service Rust Remover. If badly rusted, allow to remain for several minutes. You can actually see the rust dissolve.

See the Results

Remove nail and wipe dry with cloth or tissue. Note the complete absence of rust and the way the original surface reappears.

CITIES SERVICE RUST REMOVER has been tested for four years throughout a small, highly industrialized area in the East, where it has earned a unique reputation for performance. RUST REMOVER is a clean, clear liquid, practically odorless, non-inflammable, easily applied, and harmless to handle by those not allergic to specific chemicals. It is fast-acting, and, although heating somewhat accelerates results, general application is recommended at normal temperature (60°-90°F.) RUST REMOVER is effective on chromium, copper, aluminum, steel and iron.

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See a Free Demonstration of Rust Remover on Your Own Equipment.

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CITIES SERVICE OIL COMPANY
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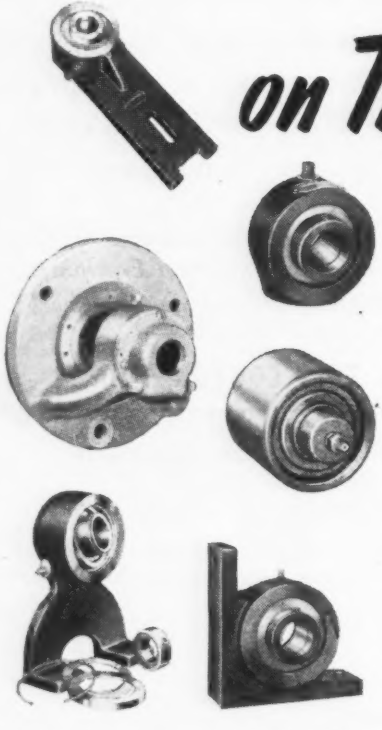
Interested in Saving REAL MONEY on Treadle Roll Bearings?



COST SAVINGS amounting to hundreds of dollars have been effected in various mills which made changeovers to Fafnir Treadle Roll Ball Bearing Units. One recent letter reported a saving of *$7.00 per year per loom* in cam and treadle roll replacement parts alone!

The Fafnir Treadle Roll Bearing, illustrated above, has a composition seal that effectively retains lubricant, excludes lint, yet is easily removed and replaced when inspection or lubrication is necessary. Bearing is specially finished to protect it against corrosion.

FAFNIR field engineers and distributors are always ready to give you the benefits of their long experience in improving the operation and maintenance of textile machinery. Working with the most complete line, they can recommend the precise bearing for maximum saving in power, lubrication and maintenance costs, cleanliness and long wearing qualities.

If you are planning to install new equipment or to convert existing equipment to meet postwar competition, let us show you how the use of the proper ball bearings and ball bearing units will pay handsome dividends. The Fafnir Bearing Company, New Britain, Connecticut. Branch Offices: Atlanta, Birmingham, Boston, Charlotte, Dallas.

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BALL BEARINGS

Before being washed, these all-wool sweaters and skirts were identical in size, material, and appearance. You can see what happened to the untreated garments (right). But those processed with LANASET changed very little in size or appearance.

"What do I do now?"

There isn't much that can be done after a woolen garment has shrunk. But now there's something you can do about *controlling shrinkage.*

LANASET*—the new product which controls shrinkage of wool and wool blends—is on the market! It's immediately available to mills and processors for full-scale trial runs in processing woven and knitted fabrics—subject, of course, to W. P. B. rulings.

This new method of processing wool not only controls shrinkage for the life of the fabric but also reduces felting and fulling to a minimum. The many desirable qualities of the wool are unaffected.

Ask your Calco representative today for full details on LANASET, the new stabilizing protective finish for wool.

CALCO CHEMICAL DIVISION · AMERICAN CYANAMID COMPANY

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Lanaset FOR WOOL SHRINKAGE CONTROL THAT LETS THE WOOL BREATHE

*LANASET is American Cyanamid Company's trade-mark covering its melamine resin for controlling wool shrinkage. The process under which it is applied is covered by United States re-issue Patent No. 22,566.

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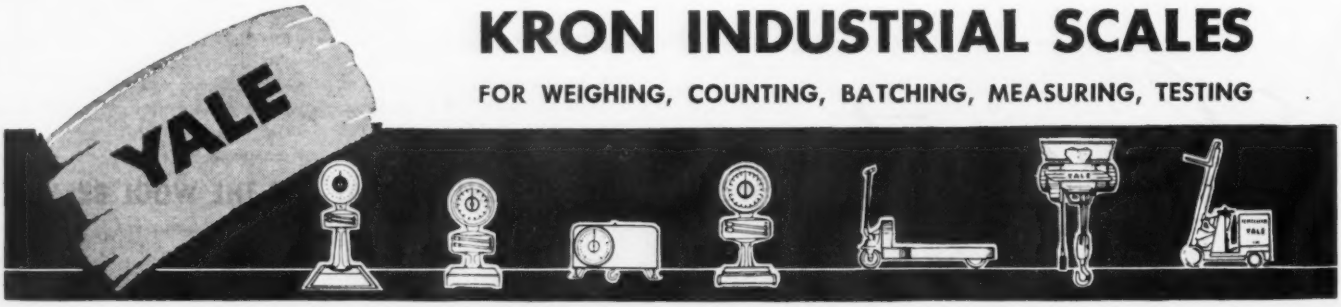
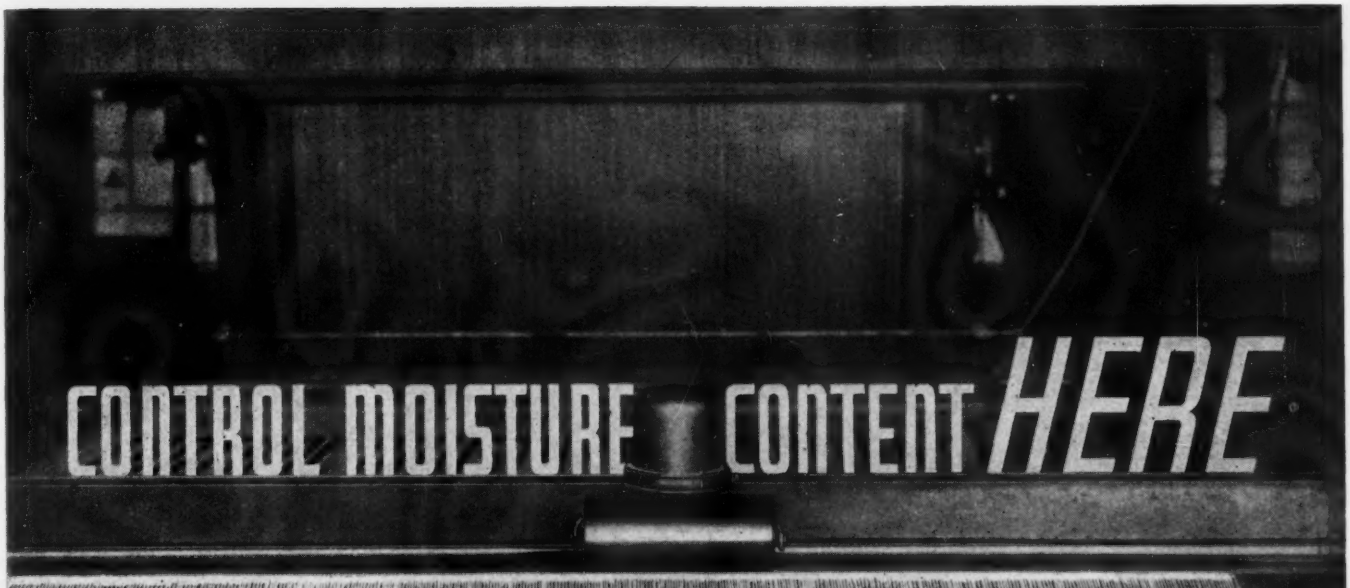


KRON INDUSTRIAL SCALES

FOR WEIGHING, COUNTING, BATCHING, MEASURING, TESTING

MATERIALS HANDLING MACHINERY: TRUCKS—HAND-LIFT AND ELECTRIC . HOISTS—HAND AND ELECTRIC



"I TAKE A BEATING"

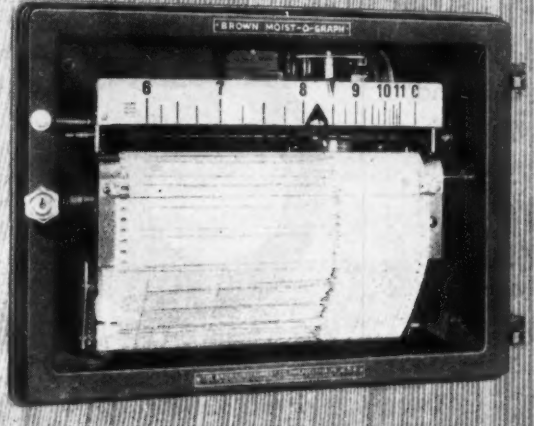
I am the warp and "I take a beating!" I take it in the slashing, and how I take it in the loom! I am constantly chafed by the reed; the heddles cut me to pieces, and the chop, chop of the harness stretches me beyond endurance even after the take up has stretched me to the limit. Yes, I take a beating and to stand it, I must be strong.

When I am improperly sized and dried in the slasher, I just can't take the beating in the loom, and much trouble is invited through my weakness. If I am too wet, I will mildew. If I am too dry, I am brittle and weak.

If I contain the correct moisture content, I am strong and resilient and will weave hour after hour, taking the beating with no complaint.

I can be strong. All I need to make me just right is a Brown Moist-o-Graph Controller installed on the slasher. Then I and my fellow warps will come through without variation, resulting in greatly increased weave room production and profits for you.

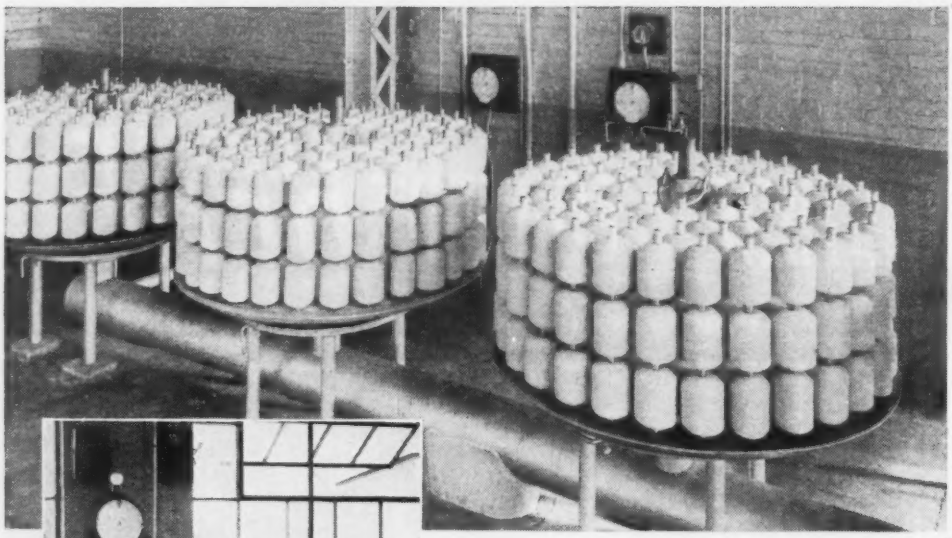
For a complete story on Moist-o-Graph Control system—write The Brown Instrument Company, 4509 Wayne Avenue, Philadelphia 44, Pa., a division of Minneapolis-Honeywell Regulator Company. Branch offices in all principal cities—cable address BROWNSON, Philadelphia, Toronto, Canada; London, England; Stockholm, Sweden.

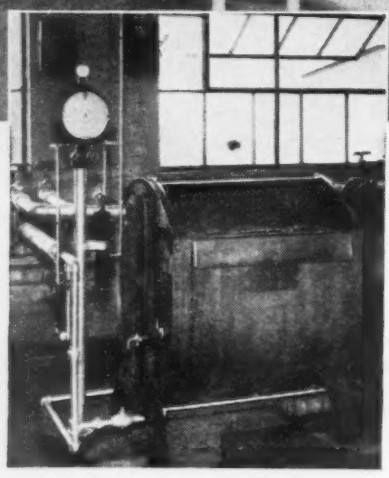


BROWN MOIST-O-GRAPH

To Measure and Control is to Economize

COST-CUTTING RECONVERSION FOR ANY DYEHOUSE...





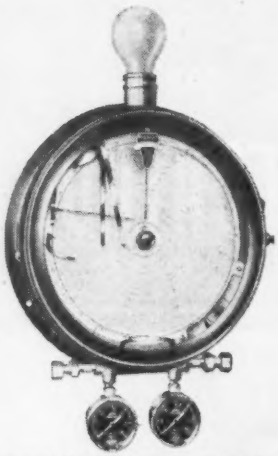
(Above) Typical installation of Foxboro Temperature Controllers on package dryers. (Below) Foxboro Elapsed-Time Temperature Controller on rotary dyeing machine.

Automatic Temperature Control by Foxboro *boosts dyeing efficiency*

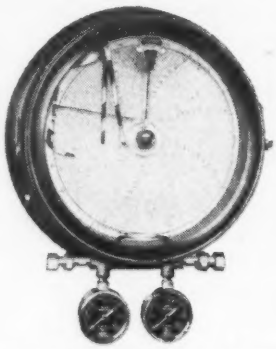
If you're seeking ways to maintain "healthy" sales-and-production volume after V-Day, don't overlook the important help offered by Foxboro Automatic Temperature Control. Even with higher labor and material costs, the improved operating efficiency that comes from Foxboro Control reflects itself in lowered costs.

Here's why. By holding dye temperatures continuously exact, Foxboro Controllers eliminate the costly wastes of manual control. Dyeing and shade-matching are more uniform... "seconds" are fewer... steam consumption and dye-additions are reduced. Further, worker-output rises because operators are relieved of fussy temperature controlling!

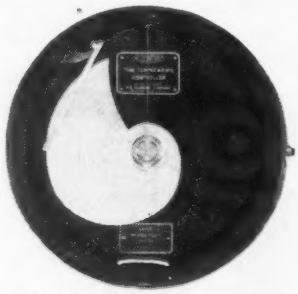
Whether you operate raw-stock, piece, skein, package or rotary dye-machines, Foxboro Controllers designed especially for such jobs, plus Foxboro's 30 years' experience in textile processes can help you cut costs. Write for details of this closer control for your process. The Foxboro Company, 84 Neponset Avenue, Foxboro, Mass., U. S. A.



Elapsed-Time Temperature Controller with or without Deferred Action – a type of instrument originated by Foxboro, and widely used for years on all dyeing processes. Provides accurate automatic control of complete dyeing cycle and signals operator at end-point. Low original cost, no maintenance required.



Foxboro On-Off Temperature Controller.



Foxboro Time-Cycle Temperature Controller, with specially-cut chart-cam, automatically controls multi-temperature processes through all steps.

FOXBORO
REG. U. S. PAT. OFF.
AUTOMATIC DYE-VAT CONTROL

. . . made to run smoothly and true, these warp beams stay that way

Higher warping speeds with less vibration . . . light weight . . . easier handling of empty beams . . . less maintenance . . . less yarn imperfections . . . lower shipping costs. These are the advantages listed by users for American Magnesium's warp beams.

The high strength and sturdy design of these beams, their precision and stability of dimensions, enable them to meet the demands of modern yarns.

American Magnesium warp beams are available in a wide range of diameters and lengths. For a quotation on your requirements, write Aluminum Company of America (Sales Agent for these products) 1705 Gulf Bldg., Pittsburgh 19, Penna.

MAGNESIUM MAZLO PRODUCTS

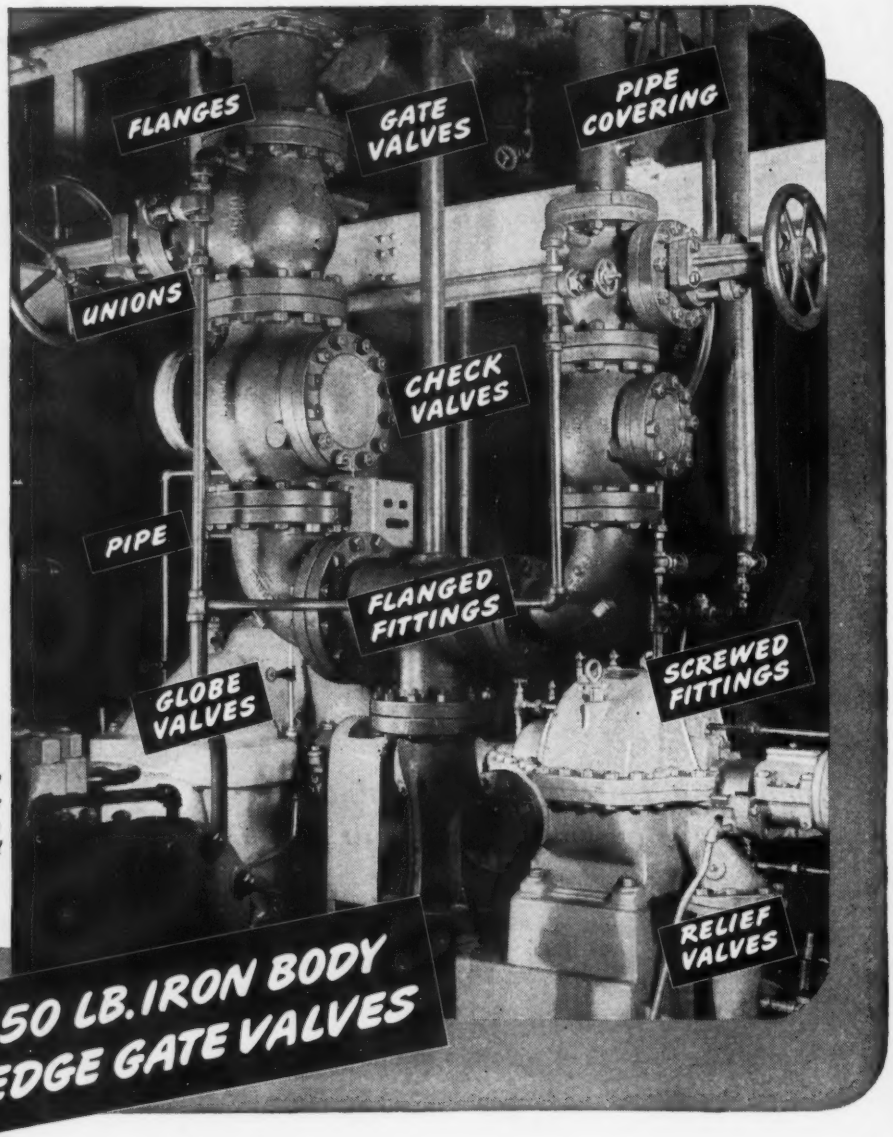
AMERICAN MAGNESIUM CORPORATION

SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA

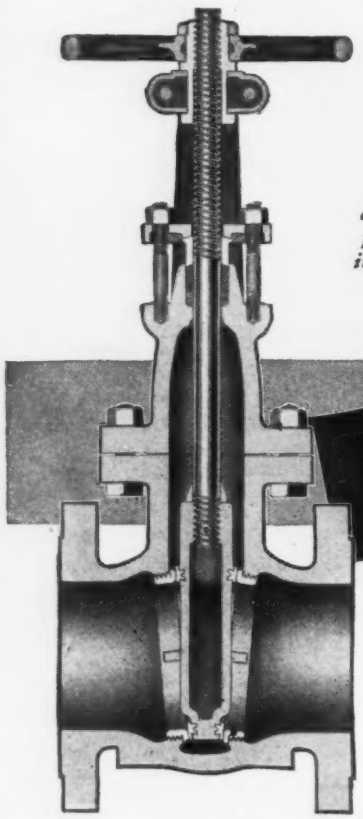
CALL ON CRANE . . .
Headquarters for ALL Piping Materials

ONE SOURCE OF SUPPLY
ONE RESPONSIBILITY FOR ALL PARTS
ONE STANDARD OF QUALITY

Look at the advantages you get when you depend on Crane for all your piping material needs. You choose from the world's greatest line—in brass, iron and steel. One source—your Crane Branch or Wholesaler—supplies all your requirements for any job. Undivided responsibility protects the quality and craftsmanship of every part. Thus, while speeding deferred replacements and keeping piping at peak efficiency, you are benefiting by Crane Co.'s 90-year experience in the field of piping equipment.



Pump discharge piping in industrial plant.



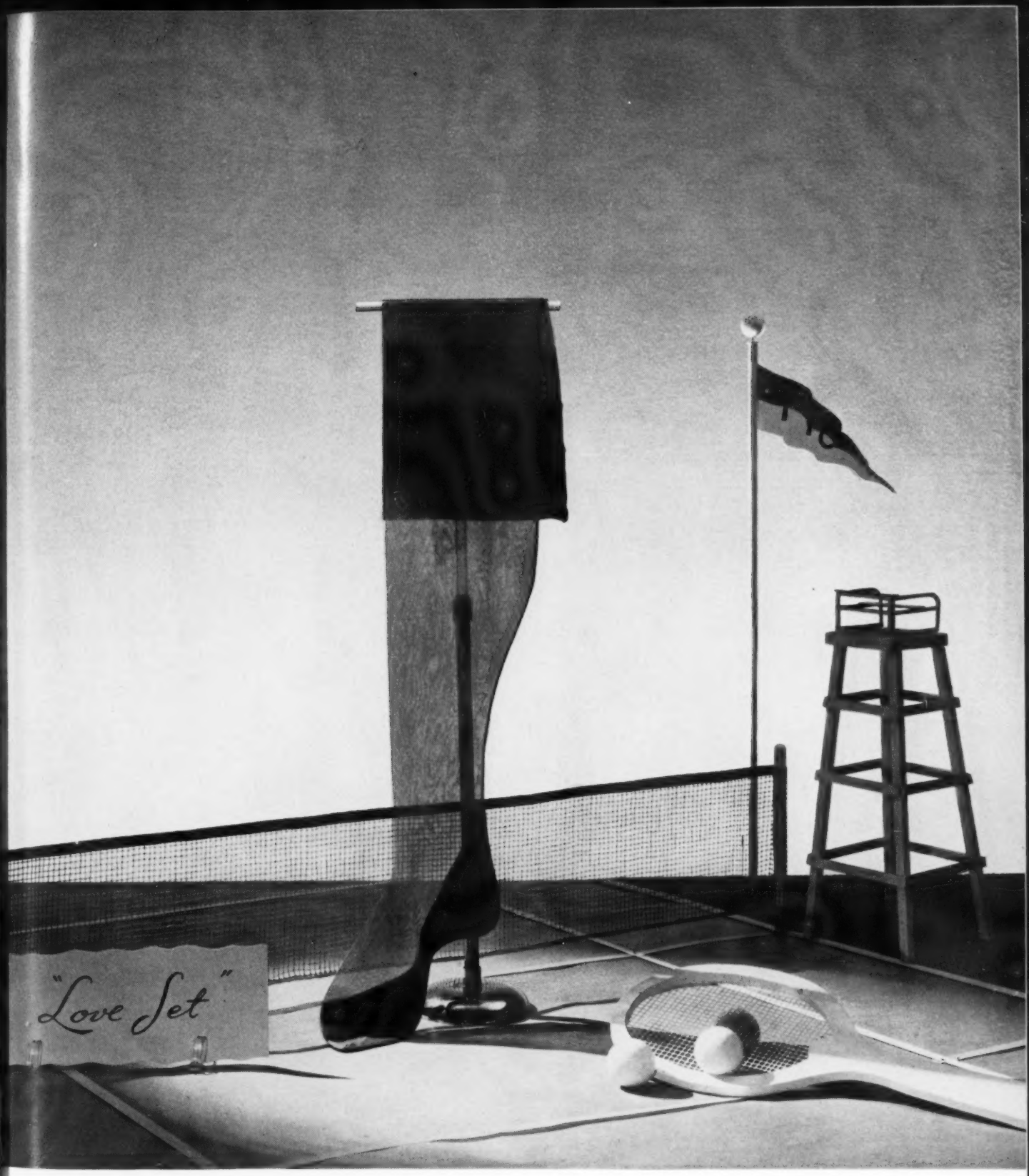
250 LB. IRON BODY WEDGE GATE VALVES

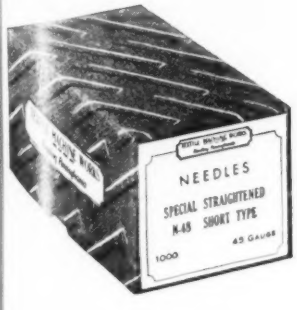
SERVICE RECOMMENDATIONS: **Crane 250-lb. Iron Body Wedge Gate Valves** are recommended for services too severe for Standard valves but where the use of steel valves is not justified. Available in all-iron or brass-trimmed; in O. S. & Y. or Non-Rising Stem patterns. With screwed ends up to 4 in.; flanged ends up to 12 in. See your Crane Catalog for complete specifications.

CRANE CO., General Offices: 836 S. Michigan Ave., Chicago 5, Ill. • *Branches and Wholesalers Serving All Industrial Areas*

CRANE

VALVES • FITTINGS • PIPE
PLUMBING • HEATING • PUMPS





Love Set . . . Lovely legs enhanced by flawless full-fashioned stockings are truly a love set. Every stocking manufacturer knows that the quality of the needles governs the texture of the fabric in full-fashioned knitting. Keep your knitting machines young and effective with TMW Needles. . . . *And remember: Regular Reneedling Pays! Let us put your needle bars in shape for faster, more accurate, more profitable knitting.*

TEXTILE MACHINE WORKS • READING, PA.

THE WAR DECORATIONS OF TEXTILE MACHINE WORKS

Bur. of Ord. Flag and Navy "E" *July 25, 1941*

One Star All-Navy "E" Burgee *January 25, 1942*

Two Star Army-Navy "E" *July 25, 1942*

Three Star Army-Navy "E" *January 25, 1943*

Four Star Army-Navy "E" *January 11, 1944*

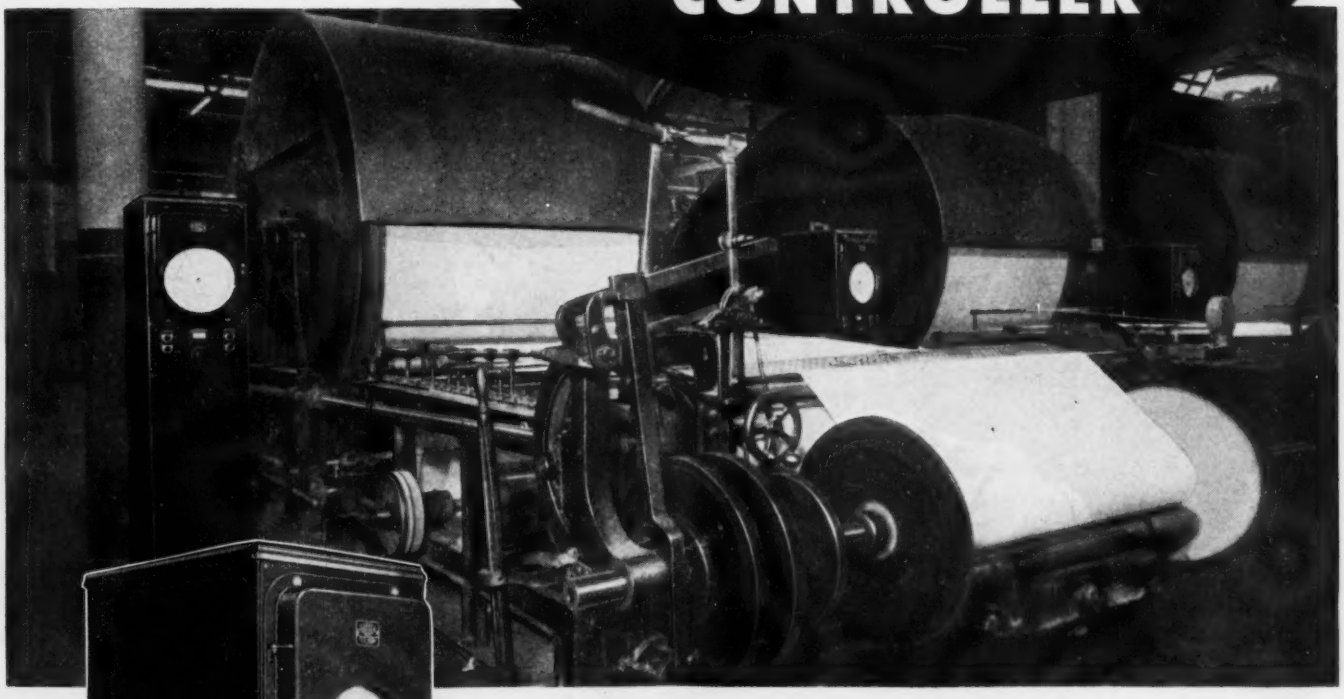
852 stars in the "Textile" flag . . .

852 "Textile" boys—each doing his best for his Country! . . . And when they return to their jobs these boys will find that the "Textile" men on the home front have been doing their best too—(1) in building precision instruments—directors, computers, aiming devices, fuse setters, gun controls—for the Armed Forces; (2) in maintaining research and development to insure the future.

TEXTILE MACHINE WORKS • READING, PA.

AUTOMATIC ELECTRONIC CONTROL OF SLASHER... INCREASES PRODUCTION WITHOUT SACRIFICE OF WARP QUALITY . . . . . .

BARBER-COLMAN MOISTURE CONTENT CONTROLLER



TRUE PROPORTIONING CONTROL MAKES NECESSARY SPEED CHANGES QUICKLY *and* ACCURATELY

In governing slasher speed to obtain uniform moisture content of yarn or the loom beam, it is important that any speed changes be made as quickly and completely as possible. Barber-Colman Moisture Content Control equipment has the advantage of providing true *proportioning* control. When a small correction is needed, only a small change of speed will be made; when a large correction is called for, a large change of speed will be made — but always in a rapid, complete, and *stepless* operation without over-correction or "hunting" Automatic *electronic* Moisture Content Control equipment allows slasher production to be maintained at peak levels, yet the moisture content of the warp is held uniformly at the precise value necessary to provide quality yarn. *Investigate the possibilities for your mills now,* write *for* bulletin F1705-1.

Barber-Colman Company

45 YEARS EXPERIENCE SERVING TEXTILE MILLS

ROCKFORD ILLINOIS — BOSTON MASSACHUSETTS — GREENVILLE SOUTH CAROLINA — GREENSBORO NORTH CAROLINA

One of a series of adventures of the Armour Soap Sleuth

Solving the great scum mystery

"THESE BOLTS are driving me nuts!" shouted the mill manager. "Just look at that *scum!* We can't knock it out with our after-scouring!"

Inspecting the faulty rolls minutely, the Armour Soap Sleuth announced, "This tragedy could have been avoided with the *right kind of soap* . . . a soap that gives rich, dirt-loosening suds at peak heat."

You see, *after-scouring* calls for a high-titer soap like *Armour's Flint Chips* to knock out scum and then rinse quickly. With a guaranteed titer of 41-42°C. this swell Armour soap gives you active suds at top temperatures—penetrates instantly. And *Flint Chips'* fast-rinsing feature prevents rancidity.

INDUSTRIAL SOAP DIVISION

Armour and Company

1355 West 31st St., Chicago 9, Illinois

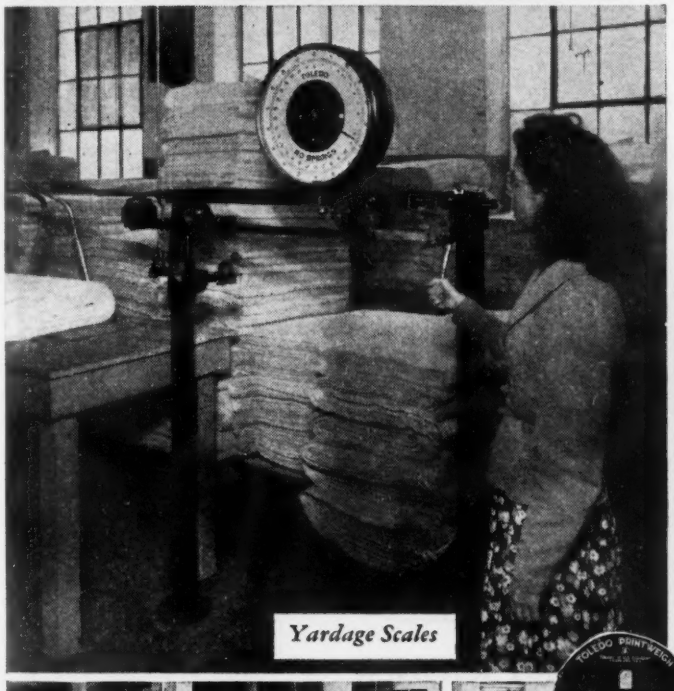
Unbeatable Accuracy

Dye Stuff Scales

With textile production a "critical" today—there's greater-than-ever need for TOLEDO *speed* and *accuracy* at every weighing point! TOLEDOS "fit the cloth" of textile needs... ruggedly built... expertly designed through long research in textile weighing problems. Unbeatable for *accuracy, speed* and *dependability.* Send for illustrated "Toledo Textile Book." Toledo Scale Company, Toledo, Ohio.

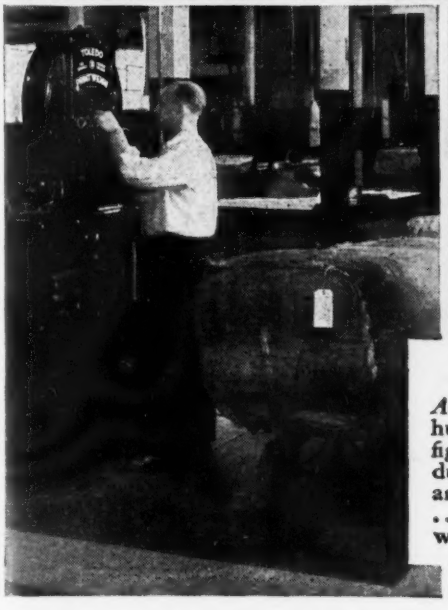
TOLEDO

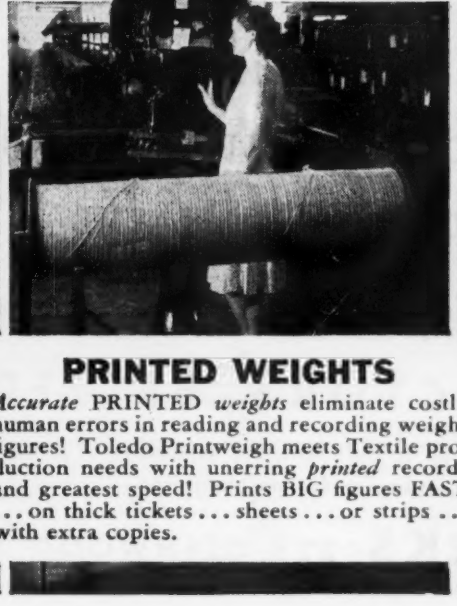
Textile Scales

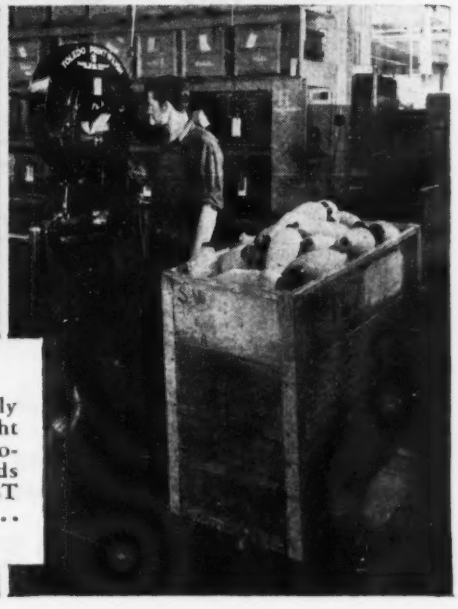


Yardage Scales

Lap Scales







PRINTED WEIGHTS

Accurate PRINTED *weights* eliminate costly human errors in reading and recording weight figures! Toledo Printweigh meets Textile production needs with unerring *printed* records and greatest speed! Prints BIG figures FAST ... on thick tickets ... sheets ... or strips ... with extra copies.

WILL YOUR EXTRACTORS *DO THIS?*

THIS *High Speed* WHIRLWIND EXTRACTOR IS THE *LAST WORD* IN PERFORMANCE

. . . because WHIRLWIND

. . . LOADS QUICKER

. . . ATTAINS SPEED SOONER

. . . CUTS RUNNING PERIOD IN HALF

. . . COMES TO A STOP IN LESS TIME

. . . UNLOADS EASIER . . . FASTER

IT ALL ADDS UP TO . . .
FEWER EXTRACTORS—BETTER EXTRACTION

WRITE FLETCHER TODAY . . . keep up to date with the possibility of present and post war installation of extractors, narrow fabric looms, throwing machines and spindles—no obligation.

FLETCHER WORKS 225 GLENWOOD AVE., PHILADELPHIA, PA.

DOES THIS WASTE OF MAN-HOURS EAT UP THE PROFITS IN YOUR PLANT?

Follow this worker and count the steps wasted

HERE'S LOST MOTION No. 1
TIME WASTED SHOVELING SALT

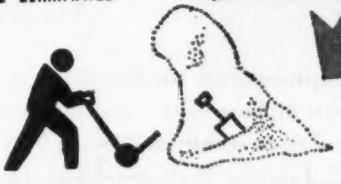
AND THEN BEGINS THE LONG HAUL . . .

LOSSES BY SPILLAGE MEAN THE SLOW LEAK OF MANY $ $ $

ACCIDENTS ON SLIPPERY FLOORS TAKE THEIR TOLL, TOO . . .

MORE BACK-STRAINING . . .
MORE DELAY . . . MORE WASTE . . .
THAT CAN BE ELIMINATED

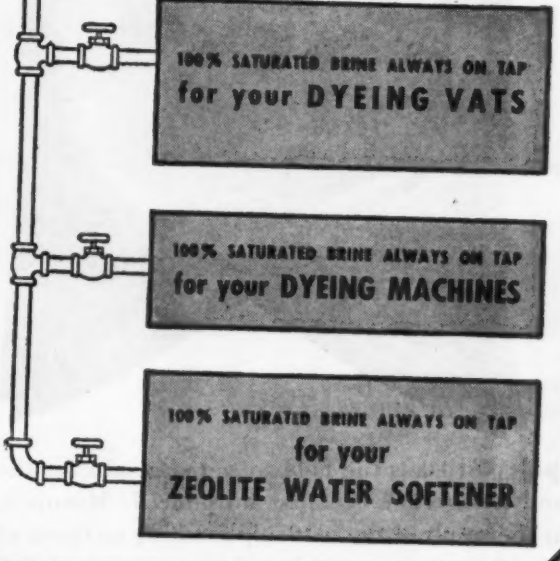
LABORIOUS STIRRING OF THE BRINE . . .
WITH UNCERTAIN SATURATION



AND YOU HAVE TO REPEAT THIS LABOR-WASTING PROCESS FOR EVERY BATCH OF BRINE!

AUTOMATIC FREE-FLOWING BRINE SAVES WASTE!

Look at these advantages the Lixator brings you. *100% saturated,* free-flowing brine of *crystal clarity!* Economy in its gravity flow . . . in its mechanical perfection . . . in savings up to 20% . . . and in its utilization of economical Sterling Rock Salt! And remember—Lixate brine exceeds the most exacting chemical purity requirements.


100% SATURATED BRINE ALWAYS ON TAP
for your DYEING VATS
100% SATURATED BRINE ALWAYS ON TAP
for your DYEING MACHINES
100% SATURATED BRINE ALWAYS ON TAP
for your
ZEOLITE WATER SOFTENER

The LIXATE Process
for making brine

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INTERNATIONAL SALT COMPANY, INC.
Scranton, Pa.

A "MUST" IN HELPING YOU CUT COSTS—THIS *FREE* BOOKLET! The Lixate process for making brine is explained in fullest detail, simply and comprehensively, in this 36-page, fully illustrated booklet. It's studded with helpful diagrams, formulas, brine tables and illustrations of Lixator installations to meet many different specifications and requirements. There's a copy for *you*—without charge, and of course without obligation. Write today!

International Salt Company, Inc.
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☐ **Send free copy of "The Lixate Process for Making Brine"**
☐ **Have your field engineer call**

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For Distinguished Service in

DYEING & FINISHING

JACQUES WOLF SULPHONATED CASTOR OILS

Monopole Oil leads the field in tested results for the dyer and finisher! When first introduced, Monopole Oil was the result of the best sulphonating methods of that time. As improvements have been made in sulphonating processes, they have been applied to Monopole Oil. That's why Monopole Oil has been out in front for 45 years . . . always ready to meet the most exacting requirements in textile processing. Its unique qualities of stability, penetration, resistance and softening power, its ready solubility in hot or cold water, produce well penetrated dyeings, bright colors, and leaves fibres soft and receptive for further processing.

Single Sulphonated Castor Oils are also available. All are extremely soluble, absolutely clear, low in neutral fat and obtainable in 35% to 90% concentrations.

Like all Jacques Wolf products, these Sulphonated Oils are produced under the strictest laboratory and production control . . . your guarantee of uniformly satisfactory results. Write today for samples for your own testing.

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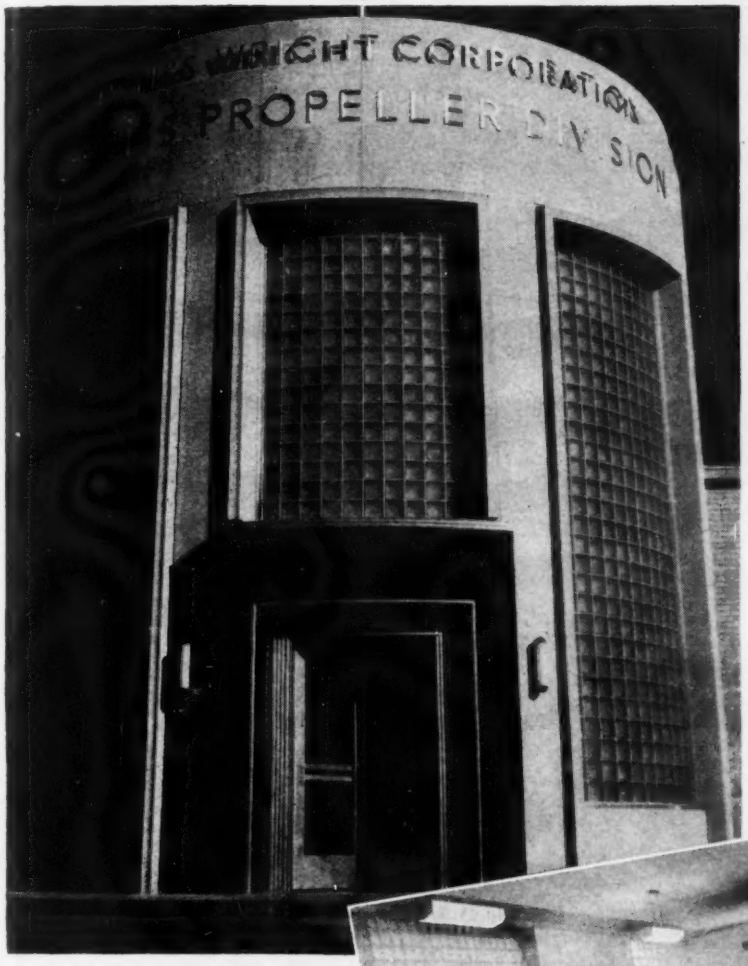
MORE DAYLIGHT with PC GLASS BLOCKS



THE light-transmitting ability of PC Glass Blocks is only one of the reasons why they are so generally used in plants, factories and administration buildings, in outer walls and in partitions.

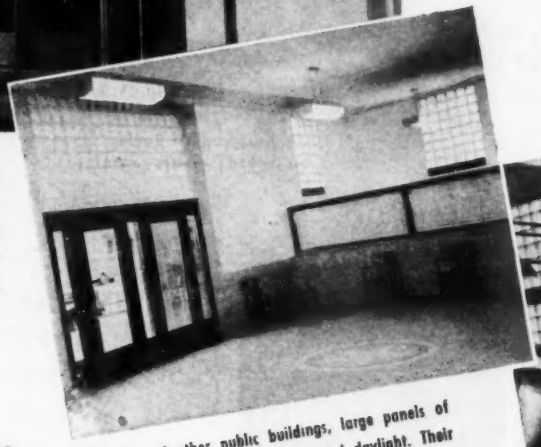
For PC Glass Blocks also have valuable insulating properties. They prevent heat losses, exclude distracting sights and sounds, protect workers, machines and goods in process from dust and moisture.

In addition, PC Glass Blocks effect worthwhile economies. Less artificial lights, less heating cost, less repairs and replacements, less cleaning time—all add up to important savings.

In the many industrial modernizing and building programs now in prospect, PC Glass Blocks will play an essential part. Now is the time to get full information on the wide range of sizes and patterns, the special functions, of PC Glass Blocks. Pittsburgh Corning Corporation, Pittsburgh 22, Pa.

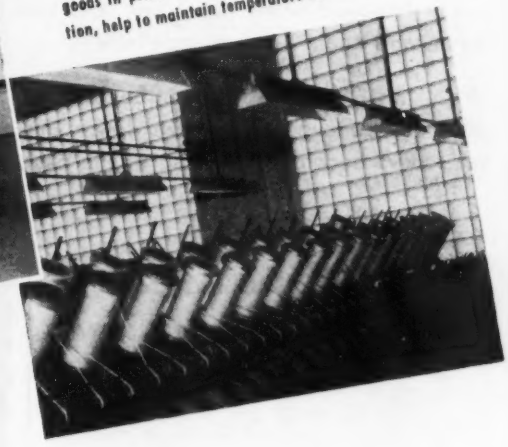
Also manufacturers of PC Foamglas.

A unique combination of practical qualities and fine appearance . . . that's what PC Glass Blocks have to offer. Exterior panels of PC Glass Blocks are attractive, they admit plenty of daylight, yet preserve privacy. Their insulation properties make buildings easier to heat.



In banks and other public buildings, large panels of PC Glass Blocks supply ample diffused daylight. Their insulating properties ease the load on heating and air-conditioning systems. Flat surfaces are easily cleaned.

In all sorts of processing plants, PC Glass Blocks provide floods of daylight. They protect precision machinery and goods in process from gritty dust, prevent condensation, help to maintain temperature and humidity levels.



PITTSBURGH PC CORNING

GLASS BLOCKS

Distributed by

PITTSBURGH PLATE GLASS COMPANY

and by W. P. Fuller & Co. on the Pacific Coast

PITTSBURGH CORNING CORPORATION
632 DUQUESNE WAY, PITTSBURGH 22, PA.

FILL IN AND MAIL THE CONVENIENT COUPON AND YOU WILL RECEIVE A FREE COPY OF OUR LATEST BOOKLET, WHICH TELLS ARCHITECTS HOW PC GLASS BLOCKS HELP TOWARD BRIGHTER, MORE LIVABLE QUARTERS—AND KEEP EXPENSES DOWN TO ROCK BOTTOM.

Pittsburgh Corning Corporation
Room 718, 632 Duquesne Way, Pittsburgh 22, Pa.

Please send me your latest booklet on the use of your PC Glass Blocks in all kinds of plants and buildings. I incur no obligation.

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Address_____

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SAFEGUARD

YOUR LOOMS

with

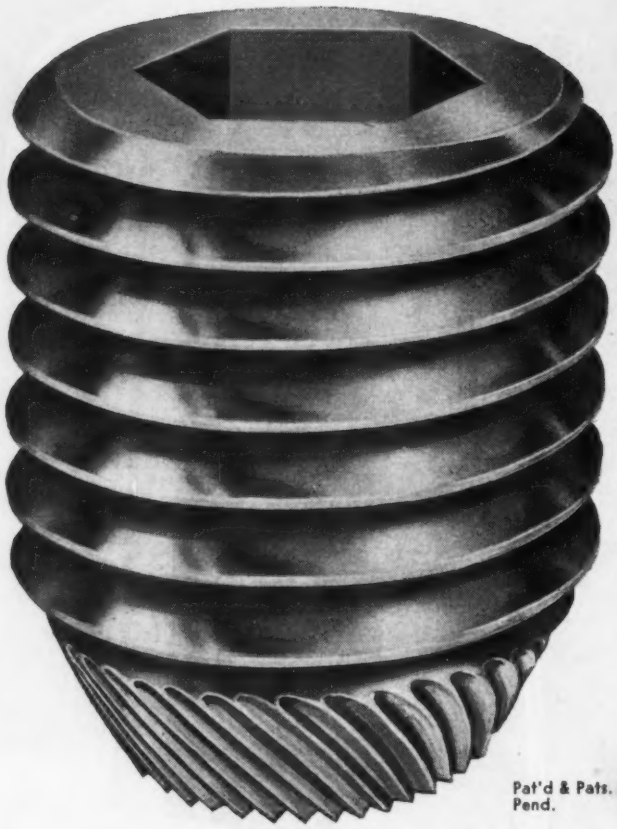
UNBRAKO

Reg. U. S. Pat. Off.

SELF-LOCKING HOLLOW SET SCREWS

They defy vibration! Tightened like ordinary set screws, their knurled points dig in and lock the screws firmly in place. No amount of shaking or jarring will make them come loose. Yet they are easily removed when necessary, and can be used again and again—almost indefinitely.

With this "UNBRAKO" Self-Locker, you save in maintenance expense as breakdowns due to loose set screws become something of the past.



Pat'd & Pats. Pend.

Sizes from No. 4 to 1½" diameter. Full range of lengths.

Knurling of socket screws originated with "Unbrako" years ago.

The "UNBRAKO" WELT-BAR SCREW

. . . uniformly strong and accurate — already insuring extra satisfaction in many a mill. Ask for samples.

"UNBRAKO" SELF-LOCKING HOLLOW SET SCREW with KNURLED THREADS

Where the Knurled Cup-Pointed "Unbrako" cannot be used, use our Knurled Thread "Unbrako," because this also is a self-locker—regardless of the style of point.

Send for the "UNBRAKO" Catalog of Socket Screw Products.

ARMY E NAVY

OVER 40 YEARS IN BUSINESS

STANDARD PRESSED STEEL CO.

JENKINTOWN, PENNA., BOX 571

— BRANCHES —

BOSTON DETROIT INDIANAPOLIS CHICAGO ST. LOUIS SAN FRANCISCO

More inside information on POWELL VALVES

This small size 200-pound "White Star" Bronze Gate Valve looks very much like the same type of valve in other makes. But back of it—back of every Powell Valve—is nearly a century of specializing in the manufacture of Dependable valves for Industry.

The result of this Powell "know how" is a line of valves ruggedly built to give long, uninterrupted service and require minimum maintenance. These are reasons why Powell Valves are the choice of leading industrial plants throughout the nation.

The complete Powell Line includes all types of valves (Globes, Angles, Gates, Checks, Y's, etc.) not only in bronze, iron and steel but also in a wide variety of pure metals and special alloys to meet every requirement for corrosion resistance (Catalogs on request).

And if you have any unusual flow control problems, Powell Engineers will be glad to make a careful study of your requirements and design special valves to meet the conditions.

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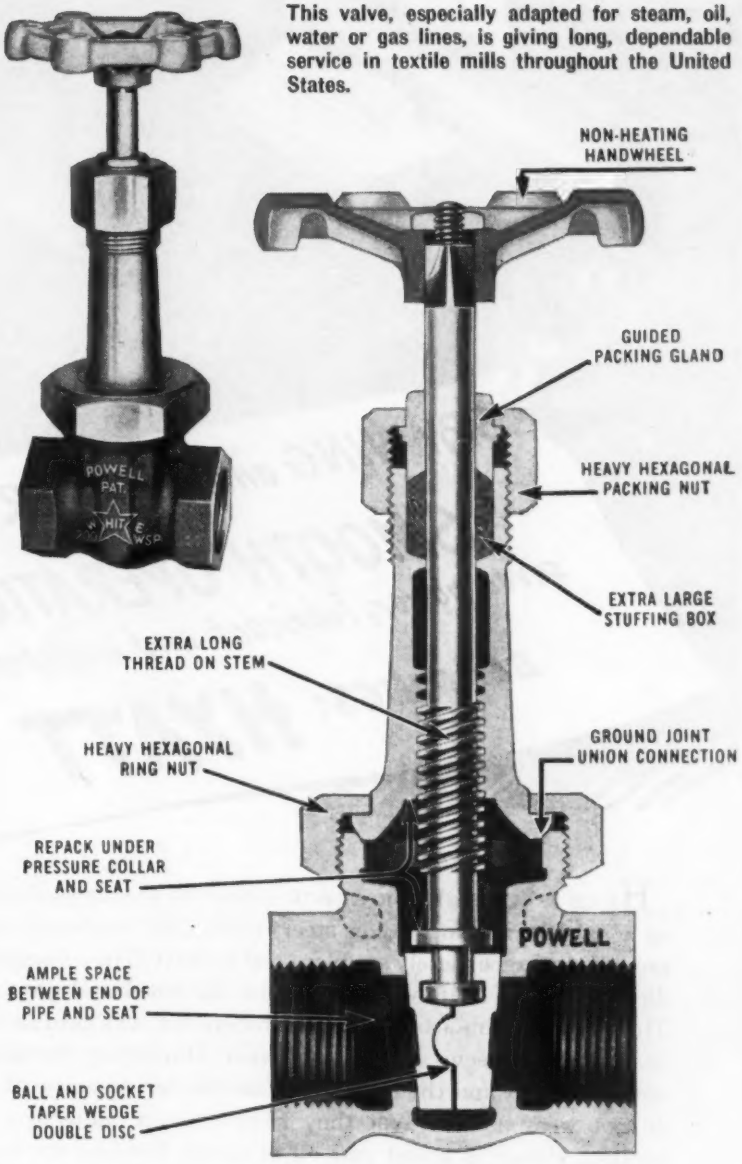
Cincinnati 22, Ohio



This valve, especially adapted for steam, oil, water or gas lines, is giving long, dependable service in textile mills throughout the United States.

Fig. 375
BRONZE "WHITE STAR" GATE VALVE

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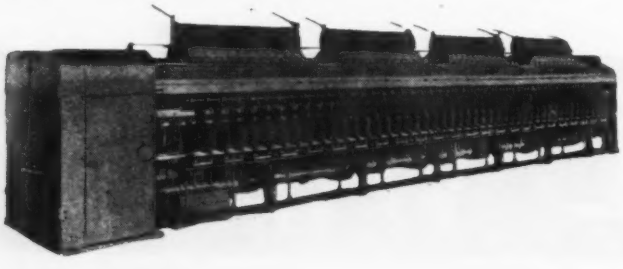
HERE IS A CYLINDER ARBOR BEARING that is as simple as a babbitt bearing. Alloy steel rollers and hardened and ground steel race merely supplant the babbitt. The rollers run directly on the shaft which has been hardened and ground. The surface of this arbor where the rollers run is as hard as the bearing outer sleeve and will not wear. Hardening the shaft strengthens it, and the rollers provide greater capacity; they do not wear as fast—yet they have a lower coefficient of friction. Power is saved and oil is saved. Frames are kept cleaner because oil does not leak out on floors and tapes.



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HYATT BEARINGS Division
GENERAL MOTORS CORPORATION
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"First things first..."

This boy is doing "first things first." To him the first thing to do when he came home from Tarawa, Guam, Saipan was to give his blood to the local Blood Donor Center.

For the Boston and Maine Railroad, "first things first" means handling in 1945 an immense volume of war freight (1944 was one of the largest volume years in the history of this railroad). We have—and will—move everything we are asked to, with speed and dispatch. It means buckling down—pitching in—determined to help and to help *fast.* Shortages of ammunition, planes, tanks, food, clothing must never overtake brave men. That's our common job—and that's the job of every industry, of every transportation company, of every individual today.

To be a part of this job—to help industry get its products away from freight houses and loading platforms quickly and efficiently—to speed them on their way to the front is our immediate concern. Of course, some of us are working on post war plans, but "first things first" *for us* means speeding war material from all sections of the country to embarkation points without interruption.

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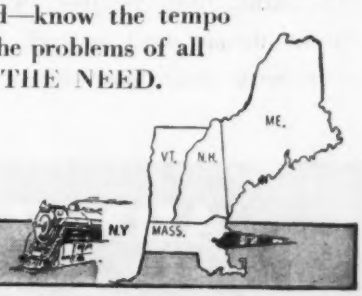

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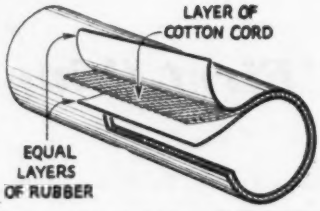
. . . in Armstrong's Accotex Long Draft Aprons

ONCE you've installed Armstrong's Accotex Long Draft Aprons, you can just forget about them. For these synthetic rubber aprons help you keep the exact amount of tension to produce strong, uniform yarn. Reason? Accotex Aprons are reinforced with a strong interliner that eliminates loss of operating efficiency due to "growing."

You get cleaner running work and less waste, too, because Accotex Aprons do not crack or scuff. They never break open. Since they are not affected by temperature or humidity, Accotex Aprons reduce lapping. And they're long wearing. Even after three years of continuous operation, under severe service conditions, Accotex Aprons show little sign of wear and retain every one of their superior qualities.

For more information . . . for free samples of Accotex Aprons—ask your Armstrong representative. Or write Armstrong Cork Company, Textile Products Dept., 8302 Arch St., Lancaster, Pa.



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REDEDICATION

An Obligation to Our Fighting Men

DURING the last few weeks we have been forcibly reminded that so long as we still are fighting either of our major foes, first claim upon the productive resources of the United States—its manpower, materials, utilities, and industrial facilities—must be the production and delivery of munitions and war supplies. All other claims are secondary. No responsible citizen would have it otherwise. For in this war even more is at stake than our existence as a Nation. We dare not forget that we are engaged in a struggle that challenges the fundamental values upon which our civilization has been built.

It is not easy to list the values that we are fighting to uphold. They have been clothed in a variety of shapes over the centuries. They will assume new forms in the years ahead. But they have an inner consistency that free men the world over can feel and recognize: the right of the commoner against the noble, the right of the individual against the state, the right of trial by jury, the right to vote, the right to an education, the right to freedom of speech and worship, the right to work in a sphere of one's own choosing, the dignity and the equality of the individual under the law—these are our cultural heritage, painfully won and often precariously held over the ages, always to be rewon, redefined and buttressed by each succeeding generation of men.

The preservation of this vital core of value, and its transmission to our sons and daughters depends upon our victory in this struggle. So those things which are essential to victory must come first. And since the production of war munitions in overwhelming volume and quality can hasten that victory and save countless lives of our fighting men, no effort that will contribute to this end should be regarded by us as a sacrifice.

☆ ☆ ☆

The present is no time for self-congratulation upon our achievements either in the theatres of battle or of production. The mounting casualty lists should suffice to curdle the savor of any such indulgence. The most that can be said in reasonable taste and good conscience is that performance in both fields is such as to warrant our firm confidence that we can carry to successful completion the tasks that remain to be done.

Nor is there profit in even observing, much less deploring, that the tasks ahead are more formidable than those which were defined for us a few short months ago. Then, all of us—military leaders, government officials, workers, and business men—were riding a crest of optimism as to an early end of the war in Europe and as to the character and dimension of the war against Japan. Already we had begun to turn anxiously toward the problems of reconversion which then seemed so near at hand. Schedules for war production, based upon the best available estimates of need, called for a 5 billion dollar reduction from 1944 performance, even though we might have to continue a two-theatre war, and for a 40 percent reduction in the event of an early victory in Europe.

Today, those forward estimates have been revised sharply upward. That is true both of the 1945 requirements to meet the needs of a two-theatre war, and of requirements for the Pacific war once the European phase is ended. For this upward revision four chief reasons are responsible:

1. European battle experience has shown markedly greater use of expendable munitions than was provided in the formulae upon which our original production schedules were calculated: the result has been a depletion of inventories on a scale that would become dangerous if allowed to continue.
2. Experience has also demonstrated the need for new types of weapons or increased complements of some existing types to match new enemy equipment or tactics.
3. A less easy optimism as to the early ending of the European war has given rise to a growing disinclination to gamble on the approximate date.
4. An increasing conviction prevails that the war against Japan may require ground-army operations on the Asiatic mainland on a scale greater than originally premised.

But if these changes in the fortunes and outlook of war have raised our estimates of military requirements, may not subsequent favorable changes in the military situation cause them again to be revised downward? It is entirely possible. But our military men have learned that they cannot safely discount what *might desirably happen* as something that *will happen*. Those working on the production front also must learn that lesson. Fortunately, the record shows that we have been able to maintain a war production almost equal to that of the rest of the world combined, even while we produced for civilian use on a scale that has been large even by our

own pre-war standards. So we have ample margin to whip whatever war job may be required of us. As now defined, the task will not be easy. But it *can* and *will* be done.

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What, then, is the production task with which we are charged? Our 1945 production for the two-theatre war now calls for the substantial maintenance of the over-all levels reached in the latter months of 1944. But there is a shift of emphasis. Almost half of the programs for specific equipment items are declining. A few are scheduled to hold level. About 45 percent are scheduled to rise sharply. That means that workers and facilities must be shifted to man the expanding programs. At the same time the armed services are calling for many more men than can be supplied from those who become newly eligible to the 18 year old age group. That means further drafts upon war workers. It means also replacements for them when they are taken from the expanding programs. Finally, events demand that we produce as much as possible of many items during the first half of 1945.

Our task, then, is one of intensified effort for the immediate future, with multiple readjustments at a stage when adjustments are hard to make. Materials for which demand was easing as pipe-lines were being drained in anticipation of falling schedules again are tight as the pipe-lines are being refilled to meet augmented requirements. Men, women, and facilities must be shifted from less essential to more essential tasks. What must be done will be done. But unless there is much voluntary accommodation, it will be necessary for us to suffer a formidable amount of governmental direction which none of us likes, many of us deeply resent, and all of us, when personally affected, volubly protest. The more we police ourselves, the less we shall be policed.

☆ ☆ ☆

Even after Germany has been defeated, we shall still face a far from light production requirement to continue the war against Japan. As currently defined this phase might require war expenditures at something like $70 billions a year, an over-all reduction of approximately 20 percent from the $89 billions spent in 1944. Reduction in munitions output would be somewhat greater, probably from 25 percent to 30 percent below 1944 levels. But it is important for us to acknowledge that the reduction is going to be substantially less than the 40 percent previously estimated.

Only a few months ago there were those who questioned sharply the possibility that we might need 60 percent of current munitions output to win the Japanese war. Now the judgment of the military is that 70 percent will be none too high.

Actually the latter level would represent an increase of little more than 50 percent above what now is being produced for the Pacific area. This, certainly, is a modest estimate when we reflect that we shall inevitably more than triple the Army forces assigned to that theatre.

Such a program probably would give us a current munitions supply from three to four times that produced by Japan, but it is believed that we shall need that much to compensate for the advantages derived by Japan from the fact that she will be fighting a defensive war, from the volume of her accumulated stores, from her prepared positions, her shorter lines of supply and transport, and from her large troop reserves, the bulk of which we have yet to meet in battle. Certainly our present 3 to 1 production edge over Germany does not appear to be excessive.

The more modest V-E Day cuts contemplated by the present plan will mean a less acute reconversion problem when they are made, but will leave a greater one to be met at the end of the war. They will mean probably a net increase of not more than 4 million workers available for civilian work during the transition period. Their orderly absorption should present no embarrassing problem. Indeed, we now are warned by Washington that war production following V-E Day may require the protection of considerably closer control than was contemplated under the 40 percent cuts previously expected.

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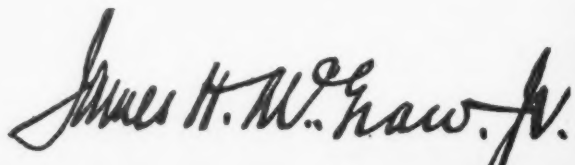
In short, we face for the immediate future a more difficult production job. It is made the more formidable by the fact that we had dulled the keen edge of our will to produce by our premature expectation of a reduction in requirements. Now we are told that the trend of war production for the immediate future is up, that it is unsafe to discount the date of victory in Europe, and that the amount of leeway for reconversion after the defeat of Germany is less than had been anticipated.

Accordingly, we must rededicate ourselves to the task of driving war production up. We must do without some of the things that we have enjoyed on the civilian front rather than demand more of those things; we have still to devote our abilities and energies first and foremost to the demands of war.

Whatever will assure and hasten victory must have first place in any statement of American policy.

Without victory, our aims, and the underlying values upon which they are based, will be extinguished, blotted out by the opposing aims and values proclaimed by our enemies.

The needs of our fighting men must be put first. For, unless we win the war, the National aims and policies of the United States will cease to have meaning in the world.



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1. Does it increase *Speed of Operation?*
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BRIDGING THE GAP

between Today's War Weapons . . .
and their New Uses in Tomorrow's Looms

VOLUME 95 • NUMBER 2 TEXTILE WORLD FEBRUARY • 1945

ECONOMIC OUTLOOK

Annual Review and Forecast Number

SUGGESTS PRODUCTION GAINS IN 1945

STRUGGLE FOR PRODUCTION COULD NOT CONQUER 1944 HANDICAPS

HIGHLIGHTS: Textile volume for 1944 fell below 1943 by 6.6%, and it was 10.5% under the 1942 all-time high mark. For 1945, textile volume may achieve a 5% gain, as pressure from many quarters is stimulating manufacture of critical military goods and essential civilian supplies. -- Compiled by William B. Dall, Managing Editor, Textile World.

MANY EXPECTED THINGS did not happen in 1944. The war with Germany did not end, and general textile activity failed to match the 1941, 1942, or 1943 figures. Productionwise, the year of 1944 marks the low ebb of the four war years, while 1942 remains the textile high-water mark. Looking back over the production record of the last 16 years (see Chart I), one observes that the last four are relatively close together, the low (1944) being only about 10.5% under the high (1942). Actually the physical volume of textiles turned out in that four-year period is something previously undreamed of, as its yearly average is fully double the yearly average recorded in the six-year depression period of 1930 to 1935, inclusive. Last year we called the war period "a high production plateau"; and it is still that, as a glance at Chart I will disclose.

General textile activity in 1944, as rated by pounds of fibers consumed, was 6.6% below 1943, 10.5% below 1942, and 6% below 1941. The failure of 1944 to match any of the other three war-years was due primarily to manpower factors, including actual scarcity of workers and absenteeism among those on the payrolls. Other contributing causes included lack of correct foresight among leaders of thought on the subject of when V-E Day would come, together with squeezes by OPA price manipulations and WPB enactments.

Due to anticipation of an early German collapse, there was a let-down in pressure on the industry to "get the pounds," and actual cut backs early in the year on some army goods. As the year neared the end of the third quarter it became evident that yardage of duck, wool fabrics, and many other textile items was inadequate, and through the last quarter the heat was

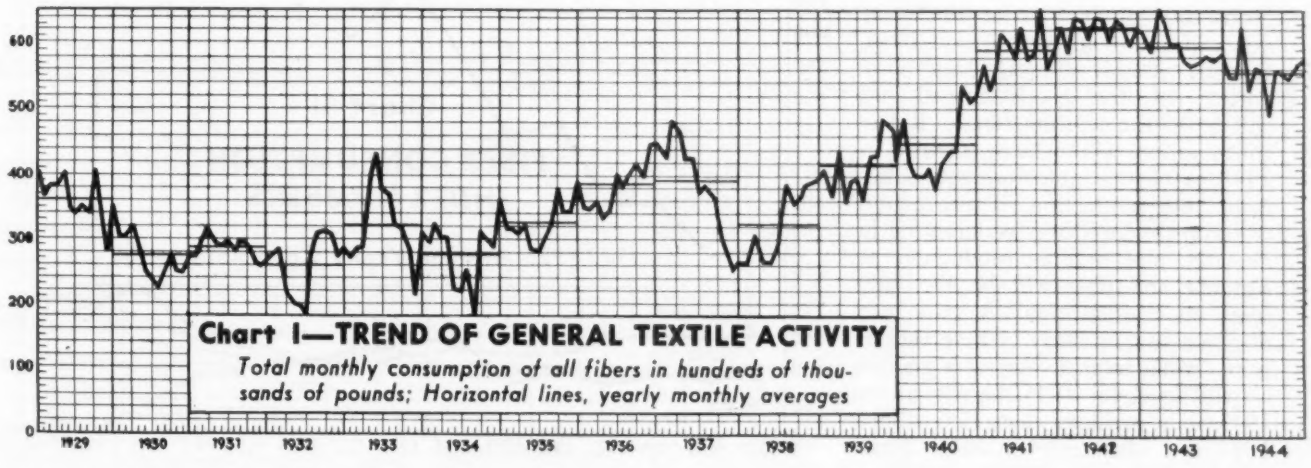


Chart I—TREND OF GENERAL TEXTILE ACTIVITY

Total monthly consumption of all fibers in hundreds of thousands of pounds; Horizontal lines, yearly monthly averages

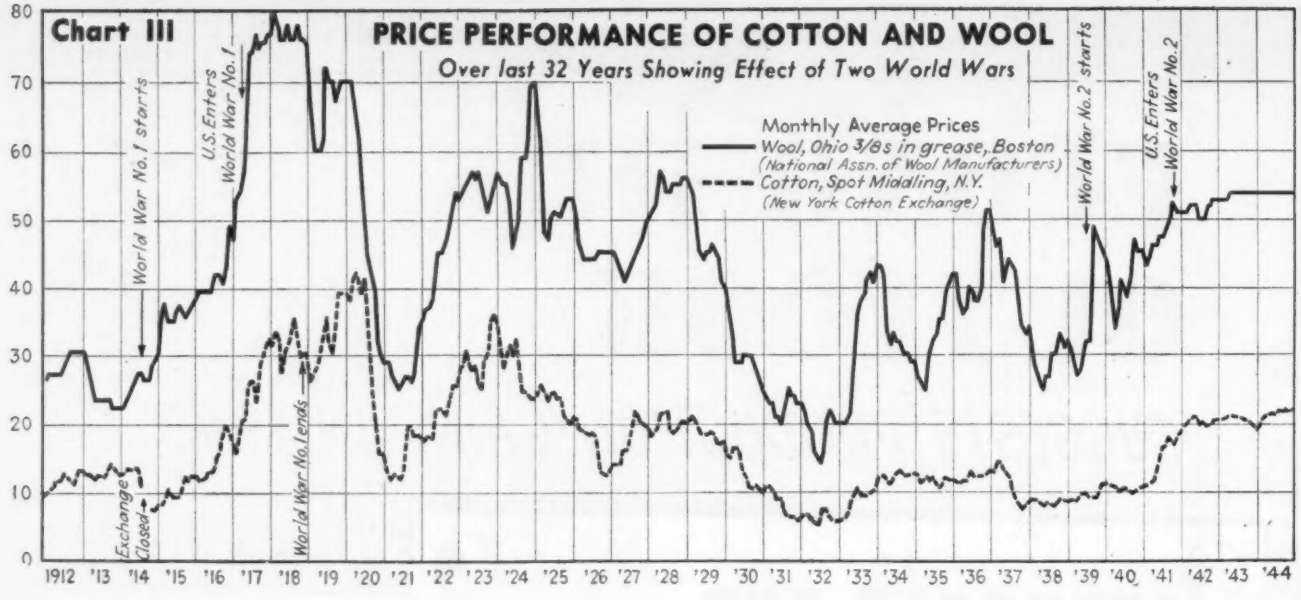


Chart III
PRICE PERFORMANCE OF COTTON AND WOOL
Over last 32 Years Showing Effect of Two World Wars
Monthly Average Prices
Wool, Ohio 3/8s in grease, Boston
(National Assn. of Wool Manufacturers)
Cotton, Spot Middling, N.Y.
(New York Cotton Exchange)
World War No. 1 starts
U.S. Enters World War No. 1
Exchange Closed
World War No. Ends
World War No. 2 starts
U.S. Enters World War No. 2
80
70
60
50
40
30
20
10
0
1912 '13 '14 '15 '16 '17 '18 '19 '20 '21 '22 '23 '24 '25 '26 '27 '28 '29 '30 '31 '32 '33 '34 '35 '36 '37 '38 '39 '40 '41 '42 '43 '44

turned on without any very decisive results. Now, as 1945 gets under way, heroic measures are being taken to assure adequate supplies of duck, tire cord, underwear, blankets, worsted uniform cloth, sweaters, webbing, etc., to mention only a few critical items.

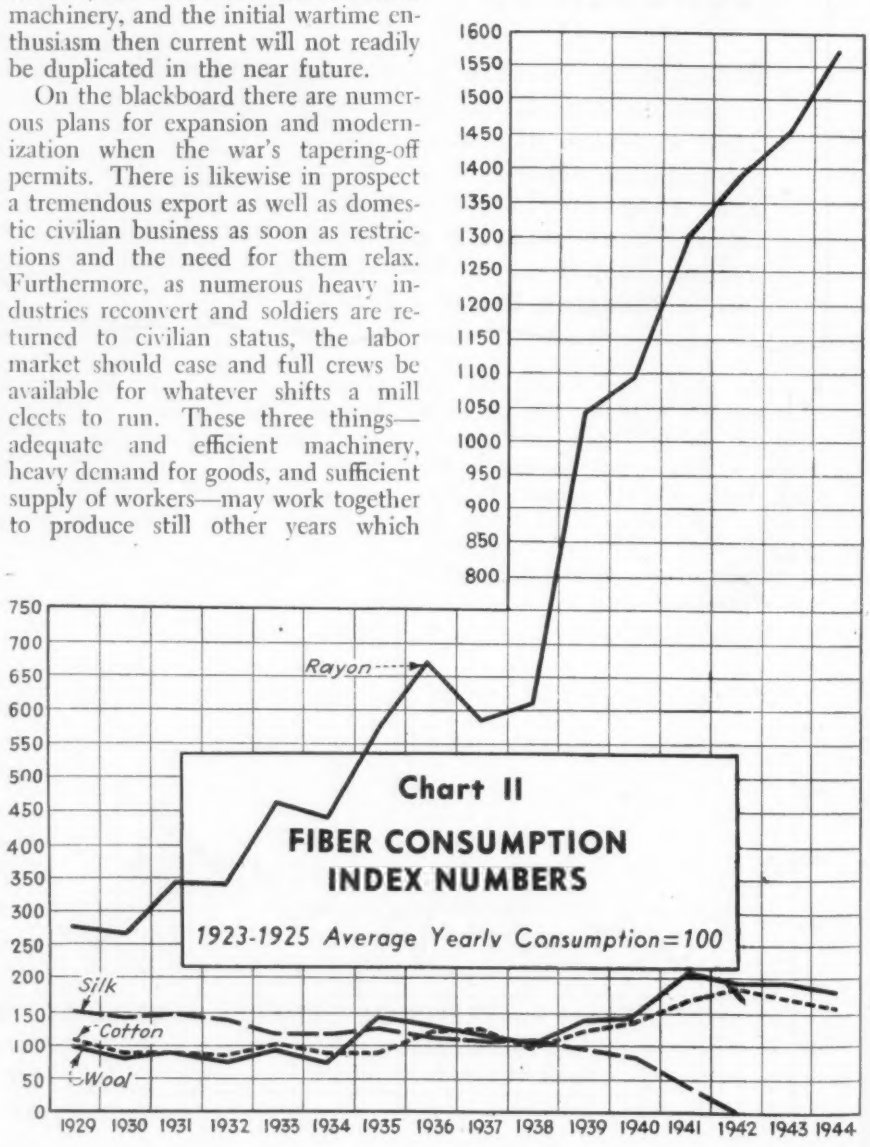
Comparing 1944 with 1943 on production in the three major fiber groups, cotton goods fell 8.5% in poundage, wool goods 6.1%, while rayon materials continued their upward march, now unbroken for eight years, by gaining 7.7% (see Chart II).

SMALL GAINS FORESEEN. Looking forward in 1945, it seems that the keenness of the military need and the energy of the actions aimed at putting manpower at the machines must result in a little increase in volume of cotton goods produced. If V-E Day does not come until late in the year, manpower scarcity may render even small gains impossible. If the German war ends by mid-year, the Jap war needs and civilian shortages of essentials should exert sufficient pressure to boost cotton goods volume back toward the 1943 level, possibly a gain of 5% over last year. Wool goods total production for 1945 may not achieve much increase over 1944, though certainly a much larger proportion of the goods turned out will go to the fighting forces. Rayon consumption will increase slightly in 1945 as new manufacturing facilities come into production. Every pound of rayon produced will certainly be in demand, and original production of filament and fiber will be the only limit on consumption. A gain here of 5% is not unlikely. These various gains, when totaled, suggest a general activity level for 1945 slightly under 1943, but probably 4 to 5% above 1944 if a reasonably favorable break is had. At worst, 1945 production is unlikely to fall much below 1944.

It seems that the 1942 record high production is likely to stand for some years, since the ease of obtaining workers, the relative freshness of much machinery, and the initial wartime enthusiasm then current will not readily be duplicated in the near future.

On the blackboard there are numerous plans for expansion and modernization when the war's tapering-off permits. There is likewise in prospect a tremendous export as well as domestic civilian business as soon as restrictions and the need for them relax. Furthermore, as numerous heavy industries reconvert and soldiers are returned to civilian status, the labor market should ease and full crews be available for whatever shifts a mill elects to run. These three things—adequate and efficient machinery, heavy demand for goods, and sufficient supply of workers—may work together to produce still other years which will be equal or superior to 1942.

There is another side to the picture, however, which is seen most clearly by those who remember the curse of the cycles of starvation and plenty which



ECONOMIC OUTLOOK

formed the usual textile pattern before the recent abnormal years. Invariably a sellers' market was quickly followed by an avalanche of production which broke prices and ended only by shutdowns and bankruptcies, which in turn led the industry into another scarcity cycle.

With that experience as an object lesson, there are already some who would strongly resist an unleashed production which might too soon oversupply civilian needs postwar. It is of course an unanswered question whether these forward-looking manufacturers will be numerous or influential enough to restrain output to a point where business will remain good, with demand nurtured over as many years as possible rather than killed off by an overdose of merchandise. If this restraint is exercised, the 1944–45 levels may remain as a top goal and the 1942 record never, in the predictable future, be surpassed.

TEXTILE WORLD'S
Textile Mill Activity Index

1923–25 average = 100

1929	115	1937	125
1930	89	1938	103
1931	93	1939	132
1932	83	1940	142
1933	104	1941	188
1934	90	1942	198
1935	105	1943	189
1936	124	1944	177

DETAILS OF 1944 DECLINE. The dwindling production of textiles from the 1942 peak has been a thorn in the side of WPB. This down-trend was barely halted in the last quarter of 1944, but there are definite hopes that it will not only be arrested in 1945 but to some degree actually reversed. Although the military disadvantage of dwindling textile output was recognized by the close of 1943, initial efforts at its correction were limited to pep-talks to rouse enthusiasm and zest and to cut absenteeism. Meanwhile the employment figures were steadily going down as the result of the drain to the highly paid war-industries and to the armed services. No pep talks could lick those hard and cold facts.

Comparing quarters of the last two years, production for which is shown in accompanying charts, it is evident how definite has been the down trend on most items. The figures are from WPB data but issued by the Bureau of the Census. At time of closing for press, figures for the last quarter of 1944 were not available but the third quarter of that year is believed to be typical of what the fourth quarter will show. From beginning to end of the 1943–44 period, total cotton goods production fell 18%, with only two

Chart IV—COTTON
Woven Broad Goods
Production by Quarters

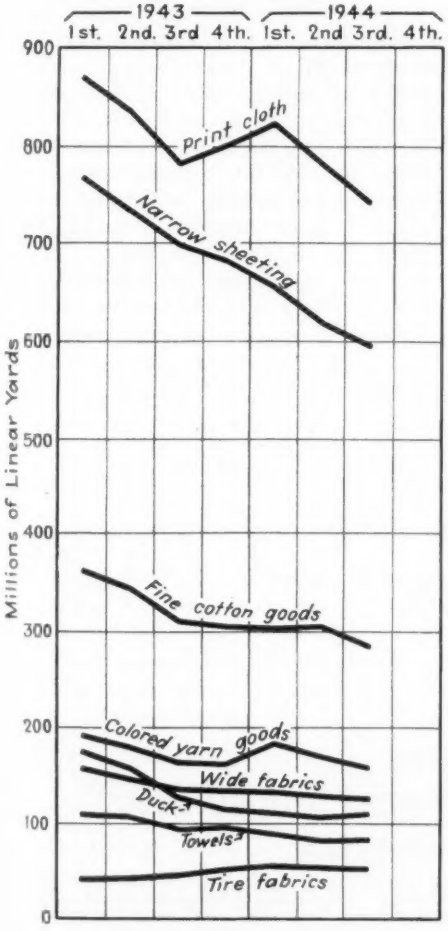


Chart V—WOOLEN & WORSTED
Woven Goods
Production by Quarters

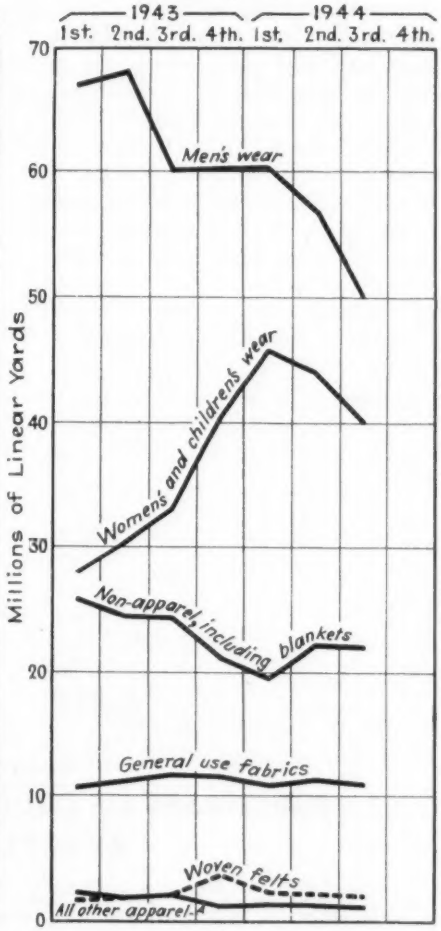
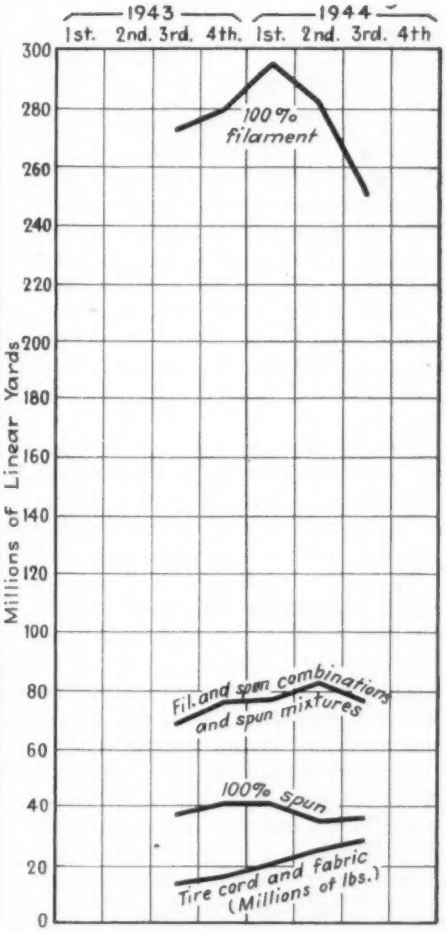


Chart VI—RAYON
Woven Broad Goods
Production by Quarters



small classifications showing gains, "specialties" (including pile fabrics, draperies, upholsteries, bedspreads, etc.) and tire fabrics. In cotton sales yarn, the production drop is 22%, with only spun rayon and blends and cotton twine showing gains.

In wool goods, from the first quarter of 1943 to the last of 1944 the over-all decline has been 7%. The detailed classifications show irregular trends, men's wear being off 25%, women's and children's wear up 70%, non-apparel fabrics off 48%, woven felts up 22%, and general-use fabrics unchanged. Rayons have held up through this difficult period and over-all show some gains. Knit goods have on the whole suffered small declines due to manpower and materials shortages.

MANPOWER SITUATION. Difficult as have been the dislocations of the textile industry due to wartime regulations and limitations, the manpower situation alone is adequate to explain the down trend in production. Although the following table shows conditions only in the cotton-textile industry, it is typical of the trends in the textile industry as a whole:

	No. of Workers (thousands)	*Cotton Processed* (millions of bales)	*Yards Produced* (billions)
1939....	394	7.3	9.0
1940....	409	8.0	9.5
1941....	474	10.5	11.3
1942....	503	11.4	12.4
1943....	486	10.7	11.7
1944....	430 (est.)	9.7	9.8

To reverse the employment trend, the army is assigning military personnel with textile experience to mills making critical goods and restraining the induction of men who are more needed in the plant to make military supplies than in the field to use them. In the sphere of military-vital fabrics this plan must be successful, but possibly civilian-essential goods through 1945 may not fare so well.

MILITARY NEEDS. In cotton goods in 1944, military needs took 22%; for the first quarter of 1945 the figure is estimated at 26%. Production is guided by WPB through directives, priorities, and allocations; and, although the direct military use comes to only about one quarter of the total product, the unrated order now has little chance as indirect military, essential civilian, export, relief, etc., take up practically all of the remainder.

Military needs for wool textiles in 1944 are estimated at 25% of the industry's production, which for early 1945 the percentage will be considerably greater. In rayon woven goods,

(Continued on page 212)

MILLS ARE GETTING MORE EQUIPMENT

HIGHLIGHTS: Purchasing in 1944 increased 34.4% over 1943. -- Compiled by Edwin D. Fowle, Editor, Textile World.

THE CURVE for purchases of textile-mill equipment and supplies, Chart VII, is going up again. While in 1943 it dropped to an index figure of 96, in 1944 it rose to 129, a gain of 34.4%.

Last year saw an increase in rated equipment orders for war-essential textile plants, including particularly the new rayon-tire-cord plants, and removal of direct controls on textile machinery by the War Production Board early in the fall. The rise would have been considerably higher had it not been that the textile-equipment manufacturers were heavily engaged on munitions work and were handicapped by both the general manpower shortage and the lack of critical materials. Certainly there was no lack of demand for textile equipment, as was shown by TEXTILE WORLD's "Mill Check-up," published in November. That survey disclosed that the industry is now in the market for seven times as much new plant and major equipment as it actually bought in 1939. That potential volume is greater than the machinery builders could hope to satisfy with several years' production. Add to that estimate, the requirements of foreign countries for rebuilding, modernizing, and enlarging their textile industries, and it seems likely that the postwar index for a year or two will record not only the annual business but actually the total capacity of the mill equipment and supply industry.

The 1944 increase lay almost entirely in new equipment, rather than in repair parts and supplies. Purchases of the latter were up even in 1943 and accounted for the fact that the overall low point of the war was but 96, only 40% under the high point of 161 in 1941. In other words, during the peculiar conditions of this war era, with its artificial restrictions balanced against high activity, the index is no true indicator of the overall status of either mills or equipment builders. This part of the chart, therefore, will prove of value only in satisfying the historical needs of posterity.

But the curve is heading back to the point where it will again disclose both industry activity and financial health. The year 1945—at least, the latter part of it—may see a strong swing to the civilian production of most everything as a result of fewer and smaller munitions orders; and this will mean a corresponding reduction in the size of the critical-materials list. Again, the beginning of the reconversion era throughout American industry should release enough manpower to permit greater use of the production facilities of the equipment manufacturers. TEXTILE WORLD's 1945 equipment index should therefore be even higher.

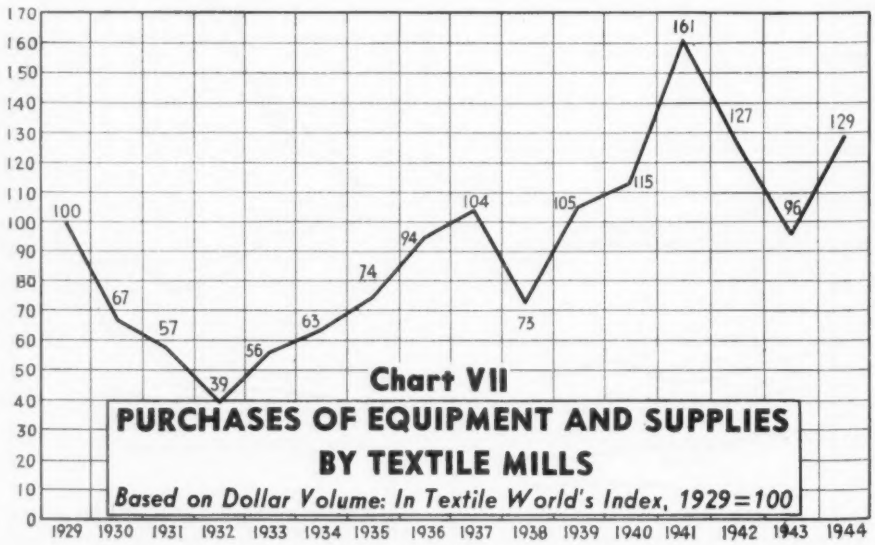


Chart VII

PURCHASES OF EQUIPMENT AND SUPPLIES BY TEXTILE MILLS

Based on Dollar Volume: In Textile World's Index, 1929=100

WASHINGTON AGENCIES SEEK HIGH PRODUCTION AND LOW PRICES

Annual Review and Forecast Number

URGENT WAR NEEDS AGAIN GET RIGHT OF WAY

HIGHLIGHTS: Army calls for highest output since first few months of war. Navy's procurement program is trailing badly. Textiles for liberated countries will be 60% relief, 40% purchased. -- Compiled by Gladys Montgomery, Washington Office, Textile World.

RECENT MILITARY DEVELOPMENTS in Europe have increased the hesitancy of Washington officials, civilian as well as military, to make predictions regarding production schedules for the year 1945. As of today, schedules are pitched not to any particular date on the calendar but rather to immediate requirements; and for production and allocation purposes, six months is as much ahead as the official forecasters care to go.

ARMY. Vastly increased Army requirements in virtually all types of textiles during the first half of 1945 will call for a higher rate of production within the industry than at any time since the months immediately following Pearl Harbor. Present scheduled procurements of major cotton fabrics, both combed and carded, are well above those for the last half of 1944. Look for drastic action to increase combed-yarn production of the numbers wanted.

Most critical shortage for the first quarter of 1945, at least, is thread. Army procurement officials are even scanning Treasury Procurement surpluses for as little as 1,000 spools of the types of thread on the critical list. Webbing will be in short supply for the first half of 1945. Production of duck for the same period will be insufficient. Even if duck production increased and requirements decreased, it would take from three to six months, according to the military situation, to catch up on backlogs. Army will give denim and tire-cord manufacturers first opportunity to reconvert when critical situation is over, putting it up to regular producers of duck to meet schedules thereafter.

As long as the emergency lasts, Army will continue to furlough for 90-day periods weavers, doffers, section men, and loomfixers. The men will receive the standard wages being paid by the mills as well as Army pay. (Applies to men over 26 years of age not in infantry or air services). Army will continue to send officers to the mills to help increase production and will encourage such moves as the so-called "military third shift" in the West Point Mfg. Co. where furloughed men and those with relatives in service may work together.

Wintry weather makes a soldier appreciate the textiles which clothe him. Here Pvt. Charles Preston, Nicholasville, Ky., brushes snow from .30-caliber machine gun mounted on his jeep. He is moving against the German counter-thrust in Belgium.

Present estimated requirements for wool items for first half of 1945 exceed total procurement for the whole of 1944. Procurements are up substantially in nearly all such major wool items as 18-oz. uniform serge, 32-oz. melton, and 10½-oz. flannel. Wool yarn used in tops for socks will be given priority over that used for serge until present shortage is alleviated.

Look for heavy procurements of wool blankets during first quarter of 1945.

There will be increased procurements made through direct negotiation of contracts, with a corresponding decrease in the number of contracts placed through the invitation to bid. This procedure is regarded by Army as not only quicker but more satisfactory to all concerned.

NAVY. Increasingly large clothing requirements for Navy may be expected this year. There will be an overall shortage of cotton textiles. Underwear will present the greatest difficulties. Expect change in Navy specifications on shirts to permit side seams, thus allowing much needed supplies to come from the cutting and sewing industry. Navy begins new year 50% or 15 million shirts behind in its procurement program. Requirements for

first six months of 1945 call for 28 million undershirts. New specifications should prove a great help in filling requirements in this line.

Shorts will continue to present a critical problem. Procurements for first six months of 1945 are for 28 million nainsook drawers. As of Jan. 1, 1945, there was a backlog amounting to approximately 8 million shorts. In December, 3,765,000 shorts were scheduled to be shipped, and the actual number sent out amounted only to 1,571,000.

Duck will be in even greater demand in 1945. Some improvement in production is noted, but supply will fall short of requirements in spite of steps taken by WPB, WMC, and the armed services.

WPB allocations for Navy, including Marine Corps and Coast Guard:

First Quarter of 1945

Army Duck	11,500,000 yd.
Numbered Duck	15,534,000 "
Flat Duck	1,159,000 "

Second Quarter of 1945

Army Duck	9,775,000 yd.
Numbered Duck	13,218,000 "
Flat Duck	985,000 "

These data do not represent requirement figures submitted by Navy —only Navy's cut-in-the-pie after overall needs have been considered. There is no guarantee that production will be sufficient to take care of all allocations.

Chambray will appear in the market before the end of 1945, since Navy requirements will be filled by that time. Available supply will probably go to work clothing.

Towels—Navy has asked for 10,000,000 Turkish towels for first six months of 1945. Uniform specifications for Army and Navy should permit order to be filled.

Blankets—Will obtain sufficient supply for year.

Woolens—Continuation of 1944 program, barring unforeseen developments. Requirements for woolen garments have declined steadily because of warm climates in which Navy's battles are fought. In 1944, Navy's requirements for melton cloth totaled 12,900,000 yd. This year they are estimated to run over 5,000,000 yd.

Among items listed by Navy in its requirements for the first six months of 1945 are: Fifty million handkerchiefs, 20 million pairs of black cotton socks, 13 million woolen socks, 11 million chambray shirts, over 9 million pairs of dungaree trousers, 1,938,000 winter jackets, 1,875,000 field jackets, 863,000 blankets, 970,000 pairs of woolen gloves, 577,000 pea coats, 128,000 blue flannel shirts, 678,000 pairs of work gloves, and 210,000 pairs of mosquito-protective gloves. In some regular-, special-, and protective-clothing lines a sufficient stockpile has been built up by Navy to meet anticipated requirements for first six months of this year.

In St. Vith, Belgium, Sgt. Marvin C. Eana, Jr., Owensboro, Ky., demonstrates the new snow cape being used by First U. S. Army infantrymen in snow-covered areas in Belgium. The one-piece white cape, which ties in front, provides quick and easy camouflage for a soldier fighting on snow-covered ground. White rags are wrapped around his rifle for additional camouflage. Signal Corps Photo

CIVILIAN REQUIREMENTS. Civilian economy will be controlled more and more by Army dictates to War Production Board and War Manpower Commission, as long as the war lasts. Also the Office of Economic Stabilization will be responsible for important moves affecting civilian supplies. Unexpected developments will continue during the war period, such as Navy's appropriation of chambray. Practically all textiles for civilian use will be increasingly scarce, and steps will be taken to reduce the supply of less essential items. Moderate- and low-priced children's wear will increase in quantity but will fall short of meeting the demand, due in part to buying pressure. Increased military demand for wool fabrics will mean tightening of civilian supply. Requirements from Army, Lend-Lease, and relief groups for wool cloth for clothing, yarn for sweaters, etc., will increase sharply during the first half of 1945. This will greatly reduce the supplies for civilian uses, as also will labor shortages and lack of plant capacity. WPB order will channel large percentage of wool goods away from less-essential uses. Decline in less-essential rayon goods also can be expected.

There will be no overall rationing of clothing and textiles. Government plans to avoid this unless absolutely necessary. It is possible that certain items may be rationed later on, such as towels, if the supply falls far short of needs. General feeling is that industry can meet major civilian needs, although shortages in specific items will increase. (See following article on Order M-400.)

In the Hurtgen Forest, of Germany, Staff Sgt. Bertram T. Beagle, Missoula, Mont., stitches snow camouflage on captured German sewing machine. Sgt. Beagle is believed to be the oldest combat infantryman in service. A veteran of the Mexican Border Campaign in 1916 and the first World War, he received an Infantry Expert Medal at the age of 52 when he was still in the United States. Signal Corps Photo

RELIEF AND REHABILITATION PROGRAMS. Shortage of shipping facilities for sending urgently needed relief goods to Europe will continue to be the big problem in the months immediately ahead. The Military will handle first operations in liberated

countries. Emphasis will be placed on need for starting up idle industry wherever mills are found to be in fairly good condition. This means sending substantial amounts of raw material, chiefly cotton.

United Nations Relief & Rehabilitation Administration is having considerable difficulty in getting its program defined; meantime some stockpiling is taking place. However, its

(*Continued on page 208*)

AGENCIES STRIVE TO DROP 1945 GARMENT PRICES TO 1943 LEVEL

HIGHLIGHTS: OPA, WPB, and OCR get together and produce M-400, which governs prices and gives AA-4 priority to designated low-end civilian fabrics. Garment producers to decide what mills must make! -- Compiled by Gladys Montgomery, Washington Editor, Textile World.

THE latest cost-of-living index showing that clothing items are among the major factors in the rise of living costs focused the attention of Stabilization Director Fred Vinson on the problem of how to halt this increase. His first move was to consult OPA on what to do to tighten price controls. OPA's answer was a maximum average price plan, with a base period set tentatively for the first six months of 1943. It states that a garment manufacturer or textile-mill owner cannot produce any garments or specified fabrics to sell beyond a price equivalent to his maximum average price during that period. In other words this will return the average price of each category of civilian fabrics and garments during the first half of 1945 to the average price levels of the first half of 1943. Current clothing prices are expected to be reduced 6 to 7%. But the success of such a plan depends on having sufficient fabrics in the lower price range to make these garments.

That is where WPB comes into the picture—to insure that there will be delivery of suitable fabrics to implement the pricing scheme. Within WPB there are two organizations with varied responsibilities: (1) Textile Bureau responsible for getting fabrics produced and garments made; (2) OCR, programming agency to determine civilian needs. WPB, represented by the two groups, and OPA got together to work out a plan which resulted in the proposed new order. (The trade press has referred to this order as M-400. It may have an official designation of M-388 or 389. Industry pressure is producing many changes.)

What is this order supposed to do? It contains OPA's average price plan. Furthermore, it prescribes rules to be followed by producers and converters of cloth and garment manufacturers, which are designed to restore to the fullest practicable extent the production of essential low and medium-priced civilian garments in the base-period price lines and of the base-period quality. The order prescribes what should have priority assistance, how much, and the procedure which must be followed. The order may give AA-4 priority assistance to designated civilian garments from yarn to finished product. About 75% of the total yardage may be allocated to essentials in the near future. The plan limits priority assistance to manufacturers to the yardage required in order to produce the type of garment specified by OCR as essential.

The "how-much" part of the order is where OCR comes into the picture. The aim is to get a balanced production of so-called essential items for civilians. The order, in its present form, gives priority assistance to a manufacturer to make low end, low-cost lines, so that he can meet average price.

WPB indicates that there will be very little fabric left for items not on the essential list. The order does not interfere with production of fabrics essential to military, essential-industrial uses, and export quotas (AA-3 or higher); they are filled first. The order applies to what is left.

M-385 increased the yardage of cotton goods for which AA ratings applied. Under the proposed new revisions of this order, there will be an expanding of ratings in terms of items and fabrics in the percentages of free goods ranging, it is expected, from 50 to 90%, and averaging in the neighborhood of 75%. It will include the better combed-cotton fabrics. However, it is likely that M-385 may be incorporated in the proposed new order which also includes rayon and wool. In rayon, the order will force changes in some types of fabric constructions.

The proposed new order virtually starts at the garment maker's level. The essential items are decided upon by OCR; garment makers then decide what fabrics they need of the allowable fabrics; after which the order goes to the converters. It channels all the way back to the mill level. In a sense the garment makers decide what the mills shall do, except for that portion of their production with AA-3 and higher ratings. The question that will be asked is whether the mill-owner must accept such orders. Off the record opinion expressed in Washington at this time is that he must accept the orders if he has the facilities to do so. It is not likely that he would be expected to convert looms in order to take such orders.

The new Textile and Textile-Products Industry Committee made up of 32 industry committees in WPB met with OPA and OCR industry committees in Washington to discuss the new order and its impacts on different groups, and to offer suggestions before the order was generally distributed in its final form.

The action all started in an effort to bring down cost of living. It is too early yet to say what may be accomplished, but there are those in Washington who are skeptical, and consider that the move was made too late. Opinion is also expressed that the problem could have been handled entirely by OPA.

TECHNOLOGICAL PROGRESS ADVANCED BY WAR

Annual Review and Forecast Number

NEW CONCEPTIONS CHANGE MANY TEXTILE TECHNICS

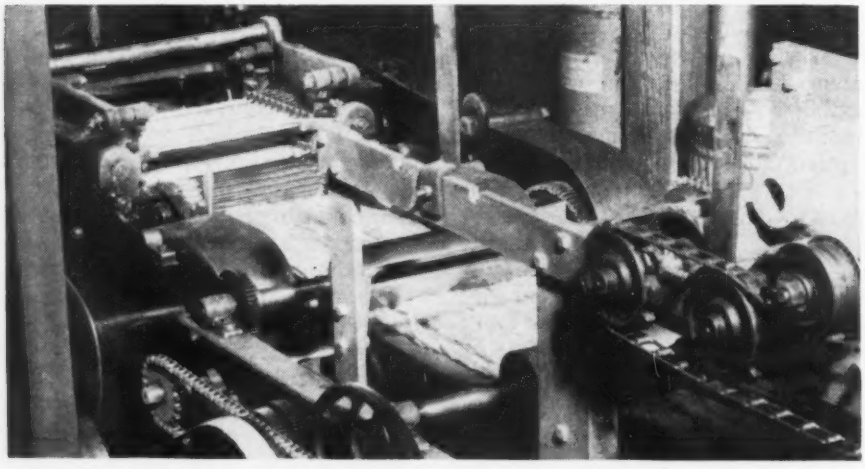
HIGHLIGHTS: New test methods, developed principally by the military, that have practically revolutionized military fabrics cannot help influencing all textiles. Postwar competition is expected to accelerate cotton technology even more. New yarns and new uses for older yarns require changes in fabrication methods. -- Compiled by C. W. Bendigo, Executive Editor, Textile World.

STUDIES MADE BY Army, Navy, and Marine Corps technicians and cooperating laboratories and plants have resulted in drastic changes in the types of garments worn by our armed forces as well as by you and me.

Investigations have been made on the porosity of fabrics, strength, abrasion resistance, value of a single thickness of a heavy fabric for warmth compared to layers of lighter cloth, flannel-lined cottons as compared to all-wool garments for the same purpose, various combinations of water-repellent treated cloths to resist rain penetration better, and so on. New tests such as shower rooms to duplicate various types of rainfall, impact spray, and drop penetration tests were developed to evaluate water-repellent garments. Tests to measure heat transfer and loss were devised. As a result of this research, still going on, our armed forces are better clothed and protected than ever before, with less weight to carry.

Dyeing of nylon by new methods using chrome and acid colors may replace acetate colors for this work. The acetate colors for this work give even, level dyeings on nylon; but in certain shades, they do not possess the maximum of light and wash fastness. Selected chrome and acid colors, padded on and dried, then steam-aged and soaped, show definite fastness advantages. This whole process is still new and represents the research work of various dyestuff companies which have labored long to develop colors to give superior fastness on nylon.

A number of investigations and studies by various scientific and research associations and groups are under way. The subjects being studied are both numerous and diverse in nature. For example, one study deals with the application of statistical methods to mill processing; another, types and methods of determining cellulose degradation. A third is on the chemical and physical principles involved in radiant-energy drying. These are subjects of a fundamental nature and apply to all branches of the industry. In addition, certain organizations are devoting themselves to improving and amplifying test methods and procedures so that fabrics, dyeings, and finishes may be better evaluated and controlled. Basic studies are being made on application and processing methods and, at the same time, on fabrics and garments in actual use.



The Campbell tow-cutting machine represents one of two tow-to-top processes that are changing the technic of manufacturing spun-synthetic yarn and blends.

COTTON PROGRESS. Keen postwar competition will greatly accelerate

technological progress in the cotton-textile industry. It cannot come too rapidly to offset the potential threat of cheap labor in other countries which have large or growing textile industries. Research done by the mills, chemical and machinery manufacturers, and military procurement agencies will contribute to this progress, as will utilization of developments in other industries.

Two promising developments have already appeared in the use of infrared or direct-fired drying equipment for drying yarn and fabric and the use of resin and plastic compounds to bond fibers in yarn or sheet form to create entirely new products which need fewer processes and utilize lower grades of cotton, or waste.

For the mill that wants to go onto or continue with synthetic staple-fibers, there are two definite trends to watch: (1) the trend toward securing machinery that will run cotton or synthetic staples interchangeably, and (2) the trend toward securing specialized equipment for synthetic staples alone, especially the longer staples. In the first field, the development of the "Z" and Shaw spinning frames hold promise. In the second field, the tow-to-top processes, the new roller-top cards, the "Z" and Shaw frames and the large-roll drawing, roving, and spinning frames offer possibilities. New blending techniques for synthetic fibers are being developed, and new methods of operation and control of productive machinery are being evolved.

For the mill that wants to stay on cotton, the trend will be toward the consolidation or elimination of processes to obtain more continuous operation with less storage and handling; the application of automatic mechanical or electronic controls to carding and spinning machinery; the development and use of more automatic features for all non-automatic machines; the improvement in machinery and methods to eliminate or reduce defective work, cleaning, and maintenance; the determination and use of optimum machine speeds and package sizes to get maximum production and minimum cost without sacrificing quality; the further use of chemically treated fibers, yarns, and fabrics to get new and better products; and the establishment of closer and more scientific control of the processes to increase production and quality and to reduce waste, and uneven or poor running work.

SYNTHETICS TREND. Numerous changes in the technology of handling synthetics have been speeded by the use of plastic monofilaments and by the huge volumes of rayon tire-cord fabric now being produced. High-strength acetates with low elongations and high-impact acetates with high elongations have both required many changes in technology from production through finishing. The handling of all these synthetics is still in the development stages.

An impending change in slashing synthetics has been almost forced by recurring shortages of gelatin. Modified caseins are being widely used and synthetic resins are being developed to such an extent that they may seriously compete with gelatin postwar.

Numerous simplifications of processes have occurred to limited extents; for example, waxing rayon for knitting as a part of continuous yarn production. The increased use of rayon cakes can be considered as a simplification of processes by the yarn producers that is continuing to change technics of handling rayon by throwsters, knitters, and weavers. A major problem, not completely solved, is the soaking and drying of cakes.

WOOL SPINNING. The spinning of wool, principally blended with cotton or rayon, on the cotton system represents a technical change in the production of "worsted" yarn that is somewhat limited by the war but may have great postwar significance.

Varied-staple rayon, a cut-staple having a fiber diagram similar to wool, has been blended with wool and spun into yarn on the woolen system. Many unusual fabrics have been made from yarns so spun, with very little change needed in handling methods from those used with 100% wool.

Elimination of processes and increased speeds of processing machines have been noticeable in manufacturing woolen yarn. Use of burr-crushing equipment attached to cards has permitted the running of shivey stock without the necessity of carbonizing.

Knitting technics have resulted in equipping many circular hosiery machines with attachments for producing cushion-sole socks. Undoubtedly many of the machines so equipped will be used in the postwar period for producing this type of sock for golfers and others. Also, it is believed that the use by the Army of socks containing a high percentage of wool will result in an increased demand for this type of sock following the war.

NEW EQUIPMENT
DEVELOPMENT CONTINUES

HIGHLIGHTS: New machines are announced for tricot, wool picking, cotton spinning, twist setting, and finishing, in addition to many smaller items such as a stop motion, knitting attachments, drives, and testing instruments. -- Compiled by H. E. Reed, Assistant Editor, Textile World.

ANNOUNCEMENT by at least four important companies of developments in the field of tricot machines was a machinery highlight of 1944. Emphasis was placed on two-bar machines for use with synthetic yarns. Standardization of these machines appears to be at 84 in. and 168 in. for length, and at 28 needles per inch for gage.

Postwar plans of one builder involve placing on the market a machine of new design to replace its present model. The present machine operates at 325 motions per minute. Another company produces a machine in 30- and in 32-gage models. The postwar machine of this company is expected to be a two-bar tricot which retains many of the features of the double-tricot model. Gage will be 28, and the machine will be available in either 84 in. or 168 in. Still another company has under way an experimental machine, but details have not been released.

A dryer has been developed for drying tricot fabrics at rates varying from 13 to 78 yd. per min. About two pounds of steam are required to evaporate a pound of water.

COTTON AND RAYON STAPLE MACHINERY. In cotton-processing equip-

ment, improvements include increased use of electro-magnets in opening lines to remove metal from cotton and to reduce picker fires, a new two-speed drive for the blending reserve to produce better control of feed and a reduction in picker-lap variation, experimental work on higher speeds for cards, development of an improved flyer-frame structure for roving frames that gives a package of more uniform wind and higher density, and the Shaw system of long-draft spinning which permits practical drafts up to 30 and experimental drafts up to 60. Further refinement and application of large-package spinning and filling winding, use of infra-red lamps and direct-fired burners to speed up the slashing operation, and experiments with cotton slasher-blankets and synthetic slasher-rolls in place of wool blankets should be included. An improved expansion comb for slashers, improved cylinders, and a new double friction for the beam drive have been announced; a new solid-core quill with 25% more yarn capacity has been developed for automatic looms, and cloth-room equipment has been consolidated for more continuous operation.

Improved applications of auxiliary equipment include adaptation of variable-speed drives to slashers to control speed, stretch, and firmness of warp on beam; the further application of moisture-control instruments; and the introduction of materials-handling systems to get better coordination of processes and to reduce cost.

For long rayon staple the high-production, roller-top card has been introduced by two manufacturers, and a new rayon drawing frame for 1½- to 3-in. staple has been announced. Tests are being made on large-roll drawing, roving, and spinning for synthetic staple; and the improved "Z"-draft system of spinning permits the handling of a range of cotton and rayon staple from short cotton to synthetic fibers 3 in. long. This system is particularly adaptable to mills handling more than one fiber or blends of fibers.

WOOLEN AND WORSTED EQUIPMENT. Introduction of a high-speed wool picker having a productive capacity equal to about four times that normally found in regulation picker equipment is assisting in speeding the manufacture of Army woolens. Design is such as to permit tandem operation.

An automatic device which permits much greater uniformity of feed for woolen and worsted cards utilizes electric controls to replace clutch mechanisms in its mechanical drives. Use of aluminum has produced a more sensitive scale mechanism.

HANDLING SYNTHETICS. Improvements are noted in stop motions, notably in the introduction of an electric stop motion unaffected by lint and suitable for any denier up to 300 without adjustment. A yarn tension device which can be used equally well for untwisted, low-twisted filament, and high-twist yarns; a cake yarn holder which permits throwing plants to change from cones to cakes without extensive creel alterations; and new shuttles for synthetic yarns have been made available.

Development work has been done with a new type of anchor screw which will permit spool heads to withstand up to 8,000 lb. without giving away.

KNITTING. Improvements have been noted in a spring-needle knitting machine for handling overcoating materials at 100 yd. per 8 hr. day, using 6 feeds. An improved multiple-feed latch-needle knitting machine is also being offered. Attachments have been developed for knitting vertically, or wale-wise, as well as horizontally, thus utilizing as many yarns as there are needles on a machine. Patterns hitherto confined to the woven-design field can be knitted on this machine.

The Fibrograph for rapid fiber-length analyses became commercially available last year. This one is in the Institute-Clemson laboratory at Clemson, S. C.

FINISHING EQUIPMENT. Gradual introduction of stainless steel for construction of finishing equipment is in evidence. The velocity of the trend is, however, limited because of priority requirements and wartime conditions.

Continuous open-width preparation of cloth, by either the steam J-box or the steamer method where an endless conveyor maintains the goods in an atmosphere of steam, has proven its worth. Kiers and other rope-form preparations will continue to be used in the light-weight fabrics; but undoubtedly for heavier cotton fabrics, rayons, and blends continuous open-width scouring offers many advantages.

In dyeing, the pad-steam method, either with or without a soda-ash booster, offers for cottons and rayons especially a means of producing shades continuously, dyed in vat colors, in almost any depth. The process is economical and lends itself well to short runs. Revamping of machines, using the conventional caustic soda-hydro boosters should be relatively simple.

Along the same line is the multi-lap machine, designed primarily for the continuous dyeing of wool. The machine keeps the goods open-width and can be run with varying amounts of tension.

The latest-design curing ovens for resins and water-repellents are divided into two compartments. The first can be used for evaporation of water and solvents, while the second is for setting and curing.

Steam drying equipment is designed more and more not only to prevent heat loss but to utilize every B.t.u. available. More scientifically designed enclosures with more efficient circulation of air and better control on exhausts for the removal of moisture-laden air have been developed. One manufacturer makes a small air dryer which can be suspended from the ceiling, if desired, to take the place of the small stack of dry cans often operated in conjunction with a tenter-frame to increase production. The dryer eliminates most to the troubles encountered with cans, such as pick-off of starch finishes, stops for lapping the cans, blistered goods due to wet-dyed fabrics going onto hot metal surfaces, and spots and stains caused by leaking bearings and joints.

Dry cans are in use which will stand up to 50 lb. steam pressure, compared with the usual 15 lb. These are made with stainless steel faces, leak-proof bearings and joints, and positive drives.

Navy needs for large quantities of indigo-dyed raw stock necessitated the development of a continuous dyeing machine to solve this problem.

Development of a six-roll vertical washer, which is equivalent to a four-compartment washing machine, reduces the amount of water required and offers substantial savings in floor area. Electronic controls suitable for regulating air, liquid level, and temperature in many of the finishing operations have been announced.

ELECTRONIC DEVELOPMENTS. Outstanding is the high-frequency drying unit used for setting twist in tire yarn.

Production has been increased and the entire operation is conducted as a continuous process.

Several different high-frequency unit-generators suitable for various textile drying operations are available.

Instantaneous-starting fluorescent lighting units and cold-cathode fluorescent lighting are to be noted, along with an inspection perch utilizing a fluorescent fixture. This perch has permitted an increase of 20 to 25% in each operator's daily output.

TESTING APPARATUS. Interest in shrinkage of Army socks has resulted in the development of a device which measures the shrinkage in the foot of a sock.

A porosity tester which determines the relative porosities of materials by means of vacuum, is suitable for use on a variety of porous textile materials.

Complete length-analysis of random samples of cotton in 6 to 7 min. is now possible utilizing an instrument which depends on electronic principles for its operation.

METHODS. Package dyeing of vat colors with a high rate of flow of dye liquor to obtain more level dyeings holds promise, especially when new types of package machines can be built. More attention has been given to a more scientific selection and control of cotton fiber—a number of fiber control laboratories are being set up and technicians trained to man them. Statistical quality-control methods have been advanced under Army sponsorship and are strongly advocated for control of variable factors that affect production, quality, and strength of textile products. Specialized maintenance methods and work simplification have received special attention in a number of textile mills.

SPECIALIZED DRYERS REPLACE OLDER EQUIPMENT

HIGHLIGHTS: Curing operations and solvent removal change the significance of drying. Infra-red units are better designed, and dielectric installations have been made. Trend is toward individual direct-fired machines. -- Compiled by C. Norris Rabold, Consulting Editor, Textile World.

THE YEAR 1944 witnessed development and adoption of improved methods and equipment for drying textiles. The principal items of interest have been the spreading use of infra-red rays, the installation of both indirect and direct-fired ovens, and the appearance of dielectric drying in the textile field.

Drying of textile yarns and fabrics implies much more than it did a few years ago. Due to the increasing use of synthetic resins, pigment-printing, and dyeing emulsions containing resins and solvents, durable water-repellent finishes requiring curing, flame-proof and mildew-proof compounds applied from a solvent medium—due to all these, drying takes in a much greater territory than the evaporation of water. Textile plants not only must remove water from goods but also vaporize solvents, polymerize resins, and volatilize the by-products of chemical reactions.

Since most of these new applications require high temperatures for an efficient time cycle, sources of heat other than steam have been called upon. Oil, gas, and electricity are all utilized to obtain high temperatures. In curing certain water-repellents, for example, temperatures of 400° F. or higher for 30 to 40 sec. give better results than temperatures of 300° F. for 2 or 3 min. In evaporating some solvents at low temperatures, there is always the possibility of leaving a trace of a high-boiling fraction on the cloth, which may result in inferior product or subsequent development of odor or color.

Steam dryers are much improved over units of a few years ago. Since steam is the oldest method of textile drying, the improvements, of necessity, show themselves as refinements rather than radical and startling new developments. Dry cans are provided with better-designed siphons and joints, which result in improved heat transfer and the elimination of "can splatter." Cans with stainless steel surfaces reduce the problem of corrosion and cleaning. Also being non-reactive, they are not so likely to affect the appearance of dyed goods as were the older copper or tinned cans.

TREND TO CONVECTION. The trend today, however, seems to be away from conduction drying to convection methods. As a result, there are now stock-loop dryers, tenters, etc., which are more compact and better insulated than before. In them, higher drying temperatures are possible with the same steam temperatures, because of the reduction of heat losses. Better direction of air to the material to be dried plus improved circulation and recirculation of air inside the dryer also produce greater efficiency with no greater heat consumption.

Independent, direct-fired ovens have been installed in several plants, primarily for high-temperature curing operations. The dryer is heated by either a gas- or oil-fired furnace on the outside. Air is raised to the desired temperature and is carried into the dryer and circulated by means of fans. Automatic controls and recorders are provided to keep the desired temperature. Such ovens can be easily adapted for water removal if desired.

Radiant energy ovens in which the products of combustion themselves are introduced into the dryer have met with favor. These units are designed to make use of both the radiant energy developed from refractory surfaces by means of burners consuming fuel-oil or gas, and the sensible or convection heat produced by combustion. As a dryer of this type contains no oxygen, there is no danger of oxidizing fibers or finishes. Dryers of this type are also provided with ducts and fans so that the heat may be utilized to the best possible advantage. Such drying units are said to be very economical to operate.

A variation of the oven mentioned is one of the same general design

which operates on vaporized fuel-oil instead of infra-red burners. Again, the oil vapors are burned inside the oven itself. While air is not completely excluded from the oven, the presence of the combustion gases inside greatly reduces the quantity of oxygen present.

INFRA-RED DRYING. A number of installations of infra-red drying lamps are already in use throughout the industry. Their purposes range from the drying of thread to sanforizing blankets. Earlier installations were rather simple, consisting as they did of banks of lamps out in the open air, where much of both the infra-red and sensible heat was lost. This past year witnessed the development of lamp ovens, totally enclosed and well insulated, provided with fans for the recirculation and exhaustion of air, so that the highest possible use is made of both the infra-red and sensible heat generated. More attention is given to reflecting the rays.

Dielectric or electronic drying is a relative newcomer to the textile field. Several installations have met with success in the twist-setting of rayon after it has been wrapped in packages. Since heat is generated within and throughout the body exposed between electrodes of the high-frequency generator, this method of drying seems to offer advantages where the wet object is to be dried in package form. A cone or cake, piece goods, jig rolls, etc., might well be dried by this method to eliminate the additional mechanical operations involved in conventional ways of drying.

At one time in the history of the industry, every machine in a mill was driven from central line shafts and in some finishing plants even now a number of machines may be driven off one line shaft. The trend in latter years has been to individually-powered units, reasons for which are obvious. In the future, there will be more and more individual drying units, each with its own source of heat. Thus, it will not be necessary to carry heat energy over long distances and run the danger of losses.

With infra-red and dielectric drying, little or no heat energy is required to bring the dryers to the desired temperature. Gas- and oil-fired ovens also can be heated quickly. Independent units can be used to relieve demands for steam on overloaded steam plants. Dryers can now be constructed to specifications as to size, amount, and source of heat energy to suit any specific fabric or finish problem.

MANY NEW CHEMICALS AVAILABLE TO THE BUYER

HIGHLIGHTS: New cotton, wool, and acetate dyes and treating compounds solve many finishing problems. Water repellents, scouring materials, and wetting agents, as well as resin formulations, have been improved. -- Compiled by C. Norris Rabold, Consulting Editor, Textile World.

A NEW LINE of wool dyes which can be applied by an improved metachrome process has been developed this past year. For the first time it is now possible to obtain full, heavy shades of excellent fastness properties, without resorting to the top or bottom chrome method of dyeing.

A few new vat colors were announced during the year. Among them were several vat-blacks developed for printing. These will not cause a setting-up of the print pastes, nor are they as apt to cause snaps or streaks as do certain types now being used. One company brought out a number of standard anthraquinone vat colors in the form of highly dispersed powders. These colors are said to be particularly well adapted for package and other pressure dyeing machines.

A few new acetate colors were brought out, mostly yellows and oranges of superior light fastness and resistance to gas-fading.

Several new direct colors, said to possess exceptionally good light fastness, were also announced.

Various pigment formulations, designed to match the different standard O. D. shades have been made available. Such blends save considerable time on the part of processors in matching shades and also insure good uniformity of shade.

A large number of synthetic scouring, wetting, and rewetting agents were developed last year; there is now no need for anyone to want for such a material for almost any purpose. Many of the detergents are characterized by their resistance to water hardness and their ability to function efficiently in both acid and alkaline solutions. One series of wetting agents is said to function over a pH range from 3.0 to 11.0.

Considerable interest has been aroused in the woolen finishing industry over the application of both urea-formaldehyde and melamine resins to wool for shrink-setting purposes. Resin formulations and processes have been worked out that stabilize wool fabrics to repeated laundryings. These applications overcome the tremendous shrinkage and felting that ordinarily take place when woolens are washed, so that the original fabric dimensions are maintained almost perfectly. Certain new resins are suitable for application on white cotton fabrics, since they will not discolor under drastic laundry treatment.

WATER REPELLENTS. Non-durable water repellents have been improved, both from the standpoint of better repellency and also stability. Only a few years ago, such products could only be run at a relatively low temperature, since the emulsion would break if a temperature much over 140°F. was reached. Now it is actually possible to boil certain of these products without breaking them down. Being able to apply them at the higher temperatures, the finisher can obtain better penetration, durability, and repellency.

The durable types have also been improved. New formulations have longer storage life than previous ones. When made up for application, the resulting emulsions are relatively thin, as compared to the thick, viscous emulsions of a short time ago.

The thinness of such emulsions is most desirable, as it enables better penetration of the goods, lessens the tendency to coat on the surface, and results in greater durability. Pre-drying and curing temperatures need not be watched and controlled as critically as with older types. This gives the finisher greater leeway in his application times and speeds, and also lessens the danger of producing improperly treated goods.

The enormous quantities of chlori-

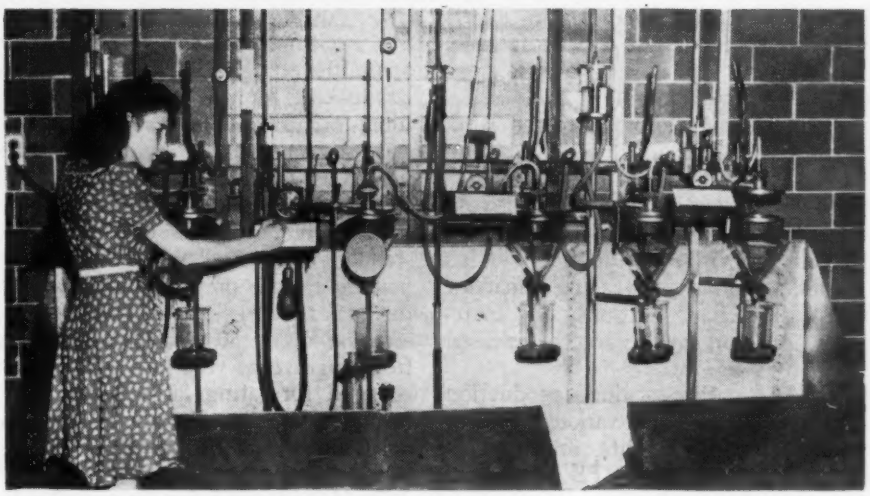
nated paraffin formulations being applied on army tent ducks and twills to impart flame and mildew resistance indicate a much wider use of such compounds in normal times. Many fabrics, both light and heavy weight, will be treated with these protective compounds. They recommend themselves to the prospective user both because of the efficient protection they give and their low cost.

While a large number of mildew-proofing compounds have been developed and applied to cloth designed for personal wear, only a few have met the necessary requirements. These requirements are: ease of application, durability to washing and dry-cleaning, and lack of toxicity along with effective fungicidal action. Among others, certain of the phenyl mercury compounds seem to possess the desired properties to the greatest degree at the present time. However, it is doubtful if the perfect mildew-proofing compound has yet been found.

DYEING ACETATE. A method of applying certain selected acid dyestuffs to acetate fibers and fabrics has been tried by several finishing plants. The colors are applied from a solvent-water solution, which swells the acetate sufficiently to permit penetration of the dyestuffs. Excellent fastness to light and washing is said to result; and, of course, gas-fading, a problem with certain acetate colors, is eliminated.

In connection with the gas-fading problem, a number of inhibitors are now available. Some of these are inorganic salts, water-soluble, which can be applied along with the regular finishing compounds. While they are readily washed out, they do afford excellent protection during storage and until the fabric is laundered. Several organic materials, mostly complex amino or amido compounds, possess greater durability. However, their application requires more careful control and their use may interfere in obtaining a desired finish. For some fabrics, however, their relative permanency offsets the objections just mentioned.

Technics have been developed for dyeing practically all of the new synthetics which are now being produced. Examples are Fiberglas by the pigment process, Vinyon E with acetate dyes dispersed in a sulphonated fatty alcohol, and acetate rayons by giving them a preliminary treatment with a caustic solution.



Suter hydrostatic testers determine the efficiency of water-repellency compounds.
Official U. S. Army photo.

RESEARCH ACTIVITY CONTINUES UNABATED

HIGHLIGHTS: Governmental agencies, private laboratories, and association groups are all contributing to research progress. Expansion of functions was undertaken by two institutes during past year. -- Compiled by C. W. Bendigo, Executive Editor, Textile World.

DESPITE SECRECY which clouds much that was done last year, particularly by governmental agencies, there was more textile research activity than in any previous period. Among announcements by private concerns were those of Monsanto in regard to the use of colloidal dispersions of polymerized silica or quartz as a durable finishing agent, those of Owens-Corning concerning laboratory production of invisible glass fibers with a theoretical strength of 3,500,000 lb. per. sq. in., and those of Riverside & Dan River telling of the loading and stretching of twisted and untwisted cotton to increase its strength considerably. Aridye made public its three-phase emulsion patent, and there continued to be much research in general on many other improvements in finishing agents, including those for water-repellency and for coating.

As a result of research, the Du Pont company has developed a method of using sound waves for strength measurements and the Slater laboratory at MIT, is reported as using still another type of strength-testing apparatus based on an electric strain gage.

Most textile research organizations not directly associated with a particular company increased their activities as can be seen from the following reports from them.

TEXTILE RESEARCH INSTITUTE. Laboratory space and facilities were leased from Princeton Engineering School by the Textile Research Institute and services of several members of Princeton faculty were obtained. Work has been started there on the following projects, with more under exploration:

1. Investigation of the heat transmission and drying rates of various textile materials when exposed to radiant energy.

2. Exploration of possibilities for

improvement in the insulation characteristics of varnished fabrics for electrical purpose (financed by National Electrical Manufacturers Association).

3. Interpretation of the moisture equilibria calculations of Dr. Albert Walker based on the Wiegerink data obtained in the institute's previous studies of textile drying.

The institute also conducted work at the Textile School of North Carolina State College on the following:

1. Warp sizing of spun rayon (work also conducted at Textile Foundation laboratories in Washington). This includes studies of weaving efficiency with different conditions and materials. A report on this is to be released early in 1945.

2. A cotton-carding production study of results with various types of cotton, speeds, weights, drafts. This study is financed by WPB and a final report is due in April.

A large stone building and 5½ acres on Lake Carnegie, Princeton, were purchased ($24,000) with the result that the Textile Foundation moved its fundamental research there from Washington. (TRI will provide building, facilities, and publication of results.) Work has started in small way under Dr. Henry Eyring of Princeton, aided by Dr. Robert Rose and two graduate students with Institute fellowships.

An economic-research project has been started to determine the competitive position of the textile industry following the war. This project is financed by Textile Foundation, and a preliminary report is due in April 1945.

AATCC RESEARCH. To meet the growing demands of the textile industry for standard test methods, the American Association of Textile Chemists & Colorists has formulated plans for the expansion of its research program, and has established a research laboratory at Lowell Textile Institute. The work carried out at this laboratory will supplement the voluntary services performed by technicians and laboratories on committee projects. At present the association has five full-time research associates and assistants. Progress made during the last twelve months on some of the more important projects are as follows:

1. Evaluation of colorfastness to light was established on a firm basis with the development and adoption of an entirely new series of comparison standard dyeings. These dyeings were perfected and prepared in quantity for general distribution. The standards are uniformly spaced in fastness from fugitive to very fast. They may be used for rating fastness not only in fading lamps and sunlight, but also in outdoor exposures without protection from the weather.

2. Urgent need for improved laboratory methods for testing colorfastness to laundering, created by the use of new types of dyes and finishes on textiles, led to the initiation of a comprehensive study of the behavior of fabrics in commercial and home laundering. Some 50 representative types of fabrics are being laundered repeatedly by commercial laundries distributed throughout the United States and by home methods. Samples are being taken after each laundering up to 30. Results will show what may happen to the textiles in laundering and should be a good basis for improving the laboratory tests.

3. Evaluation of water and rain resistance of fabrics was actively studied along several different lines. Hydrostatic, spray, and impact tests of several types were investigated.

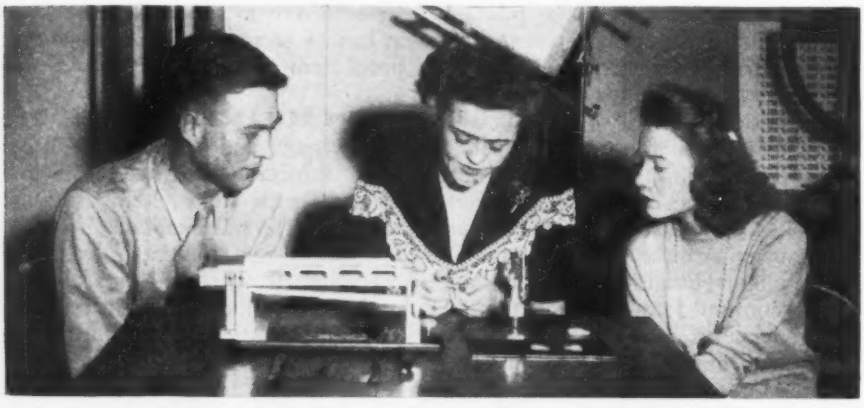
Among other projects on which progress has been made are testing of fire-resistant materials, study of rewetting agents, crocking tests, detergency, fiber analysis, ageing of textiles, mildewproofing, and resistance of textiles to insect pests. One further activity of the association has been the preparation and distribution of dyed standards for use in carrying out AATCC tests.

COTTON-TEXTILE INSTITUTE. Through a cooperative agreement with Clemson College, the Cotton-Textile Institute has established a modern cotton fiber testing laboratory to make available to cotton mills facilities for training their laboratory workers in the technic for fiber testing. The Institute-Clemson laboratory is equipped to make fiber strength measurements (both round bundle and flat bundle), maturity tests, fiber length and length distribution with the Suter-Webb sorter, fiber length analysis with the Hertel Fibrograph, and fiber fineness tests by the weight-per-inch method.

During 1944 the following reports were mailed to the members and their operating executives: (1) Research Reports, by Division of Technical Service; (2) An Intensive Study of Cotton Carding; (3) The Modern Textile Research Laboratory, by E. R. Schwarz, Textile Division, MIT.; (4) The Fibrograph—an instrument for measuring length and length uniformity; (5) The Shirley Analyser—an effective means for analysis of trash in raw cotton and cotton waste; (6) A Study of Cotton Blending, by Research Division, National Cotton Council of America, and the Office of Production Research and Development, Consumer Products Branch, WPB; (7) Cotton Defoliation and Mechanical Harvesting—Comparison of grade, waste and yarn strength reported; (8) A Laboratory Slasher for Small Lots of Cotton Warps.

CALLAWAY INSTITUTE. Purchase of its building and much of its equipment from Callaway Mills plus the addition of much new equipment was undertaken last year by Callaway Institute, Inc., as an integral part of its research program. A machine shop has been added as well as laboratory equipment including a Brabender semi-automatic moisture tester, a stereoscopic binocular microscope, a photomicrographic camera, a hydraulic laminating press, catalytic apparatus, etc. The Callaway staff of 30 has been active under exclusive contracts to clients.

ITT PROGRAM. Most of the work done so far by the Institute of Textile Technology at Charlottesville, Va., has been either of a confidential nature or preliminary work toward proposed operations which will be announced early in the year, it is expected.



Operation of the Pressley flat bundle, fiber-strength tester is explained to laboratory trainees by Helen G. Beasley at the Institute-Clemson laboratory.

ENGINEERING PROBLEMS MULTIPLY

Annual Review and Forecast Number

IMPROVEMENT POSSIBILITIES CONTINUE FOR THE ENGINEER

HIGHLIGHTS: Many new developments are designed to make a mill a more pleasant and safer place in which to work, as well as to increase productivity or to decrease costs. More depend on the end of the war.--Compiled by Earle Mauldin, Southern Editor, Textile World.

POWER MUST BE APPLIED to machines; steam must be delivered to processing operations; light must be provided—these and many other duties fall to the lot of the plant engineer. Fuller recognition and deeper appreciation of the services rendered by the plant engineer on the part of management are being accorded each year.

In new construction there is still a decided trend toward the windowless plant in which light, heat, and relative humidity can all be controlled within reasonable limits. Insulated roofs and side walls; sound-deadening ceilings; moisture-proof floors, and resilient floor covering are familiar requirements of the modern design. Long spans and unobstructed floor spaces give more freedom in the placing and shifting of equipment. Large unbroken roof surfaces are desirable from a maintenance viewpoint.

NEWER TRENDS. Three-dimensional painting has attracted attention and gained many adherents. It is being tried in machine shops, production areas, inspection and cloth rooms, and generally throughout the entire plant. In this scheme full use is made of color. (See TEXTILE WORLD, Nov., 1944.)

Fluorescent lighting is generally accepted as the modern industrial light. A late development is a type of lamp that uses a smaller-diameter tube, as long as or longer than present types. It uses a higher voltage and delivers 50 lumens per watt which is approximately 50% more efficient than the present lamps. These lamps are hot cathode tubes and require no starter. They will not be available until after the war although some have been manufactured, tested, and furnished to fixture manufacturers who are designing a complete line of industrial fixtures.

Humidification today is beginning to be synonymous with air conditioning. Central station systems are replacing other types in many of the mills. Together with air cleaners, this gives the most satisfactory results where requirements are rigid as to cleanliness. Refrigeration can easily be added to the modern system and, in some cases, seems advisable although a comfortable working condition may frequently be obtained by use of evaporative cooling alone.

Higher pressures and higher temperatures in boilers and turbines offer distinct economies. Where there is a demand for processing steam, as in a dyehouse and bleachery, modern practice is to generate power at 450 lb. pressure and bleed steam from the turbine for processing. In some cases, the turbine pressure runs as high as 1,000 lb. and the temperature 900° F. Continued high price of coal, as well as of labor, has made these savings desirable and attractive to the mill. Power stoker installations have also increased for the same reason.

The usual settling basin for water treatment was designed to provide space for storage of water from 4 to 6 hr. New methods of treatment have been developed which require storage of from 45 to 60 min. with materially reduced space requirements and a saving in cost. Another development of interest mainly to rayon producers is a method of chemical treatment which will produce a water comparable to the distilled product. This is still in the experimental stage.

FIRE PROTECTION. Much more sensitive than the ordinary sprinkler head is the new bulb-actuated fire-protection device now available. Not subject to corrosion, the new sprinkler head offers a reliable and efficient improvement over the older solder-type heads. An outstanding improvement in fire protection, developed from the laboratory state to wide industrial application, is a spray-head producing a fog-like water mist to control fires in highly volatile fluids. Control of size of water droplet and its velocity of application as determined by engineering standards has made it possible for ordinary water to extinguish fires in oils and other special combustibles. Fog applied with hand applicators and with fixed systems of piping has a record of extinguishing fires where impossible amounts of chemicals would have been required. In the fixed piping systems, the rapid detector has played a large part in the success of

the new extinguishing agent as the time required for action has been reduced from minutes to seconds.

In piping, recent practice favors welded joints over the older flanged or screwed joints. This is true of new work going in and also of replacements from time to time in existing lines. It applies equally to low-pressure and high-pressure systems. A slip-on type of welding-flange finds many points of application, and a welding nipple is frequently of use. In connection with heavy piping on high-pressure systems, there is a new compensating hanger that takes care of expansion and contraction with no variation in the load on the hanger. In some locations, alloy materials with corrosion resisting characteristics are favored over the conventional specifications.

The old heating coils located around the wall near the ceiling, are being replaced with unit heaters. A special non-clogging design is advisable, with fins further apart than in the conventional model. Even with this precaution, it is sometimes necessary to hook up a special nozzle to the compressor and reverse the flow of air through the heater occasionally to clean out the accumulation of lint and fly to maintain a high degree of efficiency for the heating unit.

The trend throughout mills continues toward individual drives wherever practicable. Flexibility and cleanliness both figure in the decision. One recent development of interest is the use of pulleys instead of cylinders on twister frames. One large mill in the South has carried this one step further and has installed split wood pulleys on spinning frames in lieu of the conventional cylinder and is enthusiastic about results. Anti-friction bearings of various types have done much to promote increased production by assurance of continuous service and easier maintenance. Less oil leaks also mean cleaner surroundings.

TRANSPORTATION AND CONVEYORS. For handling cotton from unloading platform to warehouse and from warehouse to opener room, the electric fork trucks are giving good service. In some mills, belt conveyors are used to handle full and empty bobbins in trays or baskets from floor to floor. The delivery end is generally a roller-gravity section to permit accumulation of stock. There is a trend toward the adoption of the overhead-rail conveyor system for handling warp beams and boxes of yarn from one department or floor to another. The most recent installations have been of the automatic-dispatch type.

In areas where humidity is fairly high, rust has always been a menace. Encouraged by government insistence, several lubricant manufacturers have developed for bearings and parts a general-purpose oil which contains an anti-rust additive. This oil is giving good results. Another development of interest is the anti-foam comb-box lubricant. This is available in several types; the condition of wear in the comb box itself will determine which should be used. When the box is badly worn, the semi-fluid type lubricant is still the most satisfactory.

CLEANING. In a cleaning program, there are many factors to be considered. The size of the mill will generally dictate the type of organization, or crew, required for the work. Ceilings, walls, floors, windows, machinery—even the air—must be kept in good condition if the morale of the plant is to be at its peak. Periodic brush-down of walls and ceilings and generous use of paint is advisable. Floors may be scrubbed and mopped, or dry cleaned. The latter system offers freedom from one troublesome source of accidents—wet floors. To prevent accumulation of lint and fly on the machines, overhead automatic traveling blowers are used for many machines; stationary fans, for others. These cleaners carry the lint to the floor where it can be accumulated and removed. Electric air filters will remove dust and smoke where necessary in order to produce clean work. For floor cleaning where water is used for scrubbing, the most satisfactory equipment is the combination power floor-scrubbing machine with vacuum water pickup. This machine scrubs and dries the floor as it proceeds. Of great help in keeping floors clean are the penetrating floor finishes now available.

As labor gets scarcer, automatic controls become more important; manual control depends on training and is unreliable until the help is experienced. An example of this is in the use of an accessory in the slasher room which automatically maintains and controls a predetermined moisture content in the loom beam. Being independent of manual regulation, this attachment will aid slashers to produce at near-maximum efficiency. For rotary dyers, instruments are being used that will record and control automatically the temperature and the duration of the bath. An electronic recorder with all of its functions not yet determined is being used for temperature, pressure, and weight controls, and will probably find wider applications after the war when experiments can be conducted with greater freedom. Of special interest to finishing plants is a new Baumé recorder and control for use with caustic solutions.

OTHER FUNCTIONS. Many opportunities for service to the mill will present themselves to the plant engineer. Among these, the following ideas are worthy of exploration: Organization of efficient department, maintenance of plant and equipment, research connected with the product of the plant, development of new processes and machines, and ways of stimulating higher production.

Organization of entire engineering personnel, determining the duties and responsibilities of each, preventing lost motion and the overlapping of services—these comprise the first task that falls to the plant engineer. Once reasonably determined these task assignments remain fixed indefinitely and make for efficient service.

Central stations for humidity control, cooling, and air cleaning are being found in more and more textile plants. Air-conditioning rates as one of the first postwar projects.

MODERNIZATION PLANS ARE BEING PREPARED NOW

HIGHLIGHTS: Even more planning will be required after the war ends. All branches are proposing considerable expenditures. Plans of several aggressive plants have been made public.—Compiled by T. O. Ott, Jr., Southern Editor, Textile World.

CURRENT PLANS for major plant and equipment expenditures of over $640,000,000, (TEXTILE WORLD, Nov., 1944) will, largely, have to await the outcome of our newly stepped-up war production program and the final outcome of the European and, possibly, the Asiatic conflicts. Reconversion plans are out for an indefinite period, but plans for modernization can be further perfected until such time as they can be carried out. Additional wear and tear on present equipment will make modernization even more urgent in a year or two, and undoubtedly plans will have to be revised upward when the war ends.

All branches of the industry, it is estimated, plan substantial investments in general industrial equipment and buildings, with the finishing industry planning a major expenditure. Many have made provisions for employee facilities, such as lavatories, rest rooms, first-aid rooms, restaurants, village houses, industrial music, etc. The cotton branch alone plans to spend $10,000,000 on employee welfare. The synthetic branch indicated a particular interest in air-conditioning equipment.

Plants must have their plans ready for action by V-Day; they must show some effect by C-Day, the day competition takes effect, or their position in the industry will be threatened. To meet competition, manufacturers with old or badly arranged plants and equipment can consolidate operations in one unit or part of the plant to reduce handling and supervisory costs. They should give special attention to balancing the mill, make it more flexible, and allow for future enlargement of departments or processes. Many mills have experienced bottlenecks because of radical product changes which have resulted in a shortage of machinery such as cards, spinning frames, or looms. Large expenditures on this equipment noted in the survey indicate that this condition will be remedied.

SYSTEMATIC PLANNING. Alexander Smith & Sons Carpet Co., Yonkers, N. Y., makes use of a central plans committee and subcommittees to study problems and prepare plans for the company's postwar operations. The central plans committee, composed of four top executives, is to assign to various subcommittees the study of numerous pressing problems, to guide and coordinate their work, and to make sure the various reports are in proper form for the president's consideration. Upon approval by the president, these reports are sent to the operating executives as approved plans of action.

At one cotton mill that is 90% on war work, the Mandeville Mills, Carrollton, Ga., the management is not waiting until the end of the war to modernize. Abbott winders have recently been installed for which priorities were obtained since labor could be saved.

Changes and improvements planned for the postwar era include the following: Rearrangement of the opener room and the installation of blending feeders and screen sections; reworking and partial rebuilding of the cards and drawing; substitution of inter-draft and super-draft for present two and three-process roving; replacement of 50% of the present spinning with Whitin long-draft, 4½- and 3½-in. gage; replacement of old small-package twisting with Whitin high-speed, large-package twisters; and the installation of fluorescent lighting. Comfort for employees is being considered in plans for rebuilding rest-rooms and toilets, and a modern office and cotton-sampling room is to be built.

In the hosiery industry, Gotham Hosiery Mills, Inc., have ordered additional fine-gage full-fashioned machines, and will also enter into the production of seamless hosiery. This company has recently acquired another full-fashioned hosiery plant and has ordered new high-speed, 32-section, full-fashioned machines, 51-gage or finer, to increase the production. Gotham's Canadian Plant, Gotham Hosiery Co. of Canada, Ltd., is to be expanded 50% in floor space and 100% in productivity, and it is in the plant that new 400-needle circular machines will be installed.

Another large hosiery mill, the Mock, Judson, Voehringer Co., expects to spend around $700,000 as soon as it can get new machinery. It also expects to air-condition the mill. At present the mill is humidified; refrigeration will be added.

A number of full-fashioned hosiery mills plan to add new 400-needle circular machines for women's seamless hosiery.

OLD AND NEW PLANTS. Plants over two stories high will present a most difficult problem of modernization, especially where additions have been made without much thought as to process flow. Engineers seem to agree that many of the two-story structures can be modernized economically. Whether the older mill that has been modernized can compete with a completely new mill depends upon management as well as the building and equipment. There is still a premium on brains. Older mills will have to make the best use of in-plant transportation equipment and the rearrangement of processes.

How much of a trend there will be toward new mill construction cannot be readily predicted. However, mills with completely depreciated plant and equipment may decide to build new plants of modern design. Some mills are planning to re-equip existing plants with machinery for rayon staple. Others are planning to make present plants and equipment flexible enough to run both cotton and rayon staple, while still others plan to increase the efficiency of cotton production by better use of long-draft roving and spinning equipment, and by in-plant transportation equipment.

PERSONNEL PROBLEMS COME FIRST

Annual Review and Forecast Number

MANPOWER SHORTAGE IS THE MAJOR CONCERN

HIGHLIGHTS: A training program enabled textile mill to maintain all three shifts. Aptitude testing, started now, will be of increasing importance. Textiles are losing many employees. -- Compiled by T. O. Ott, Jr., Southern Editor, Textile World.

MANPOWER SHORTAGES have been spotlighted as the most critical personnel problem for 1944. Cancellation of reconversion plans and the emphasis put on critical war production and the chances of a long war will make textile manpower even more critical in 1945.

The textile industry has been forced to expand its training programs, employ more women and seasonal workers, and scour the surrounding areas for any available help in an attempt to meet critical and essential production quotas.

Other critical problems include the control and reduction of labor turnover and absenteeism; the handling of women employees; the training of new workers; and the provision for more housing, transportation, eating, and recreational facilities.

TRAINING. Systematic training of instructors in the fundamentals of instruction, provision of special areas and machines for pre-employment training, and instruction of foremen in job relations and job methods have all helped keep the efficiency of the labor force up. Even though there is little or no selection as to candidates for training, these training methods have been responsible for keeping the textile labor force from diminishing to an even greater extent than it has.

An instructor training program and a training school under a full-time director have enabled Drayton Mills, Spartanburg, S. C., to maintain all three shifts (Textile World, April, 1944). The training director stated that in one department there had been trained under this program 90% of the third shift, 83% of the second, and 3% of the first.

While some mills prefer to work out their own methods of training or stick to hit-or-miss methods, many mills have announced great benefits from using the condensed training courses, JIT, JRT, and JMT, offered by the War Manpower Commission. Many mills will continue and enlarge training programs after the war based on their successful experience with these courses.

Aptitude tests, as an aid to the selection and placement of beginners on the right jobs, are being tried by several progressive mills. Aptitude-test batteries and trade tests have been developed by the Division of Occupational Analysis of WMC, and these tests can be given at the U.S. Employment offices or in the mills. Scarcity of manpower has not allowed these tests to be fully utilized, but they will be widely used when selectivity as to employees is again possible.

ABSENTEEISM. Labor - management activities, departmental absentee records, and talks by military personnel on the part textiles play in the war have brought home the seriousness of absenteeism to the worker. For example, the labor-management committee at Nashua Mfg. Co., Nashua, N. H., has focused attention at that plant on absenteeism (Textile World, April, 1944). Lost-time records through absenteeism by departments allow supervisors to note the trend in their own departments as compared with others and to take action accordingly. The Nashua committee sponsored meetings where members of the armed forces addressed the employees on the importance of working regularly. A suggestion plan with cash awards was worked out by the committee and put into operation. It has proved of value by making available many new ideas to increase production.

At many mills, attention has been given to the comfort, safety, and convenience of the workers and their general physical fitness in order to reduce absenteeism and to increase production. Measures taken include expansion of village housing; expansion or improvement of the employee welfare facilities, such as restaurants, cafeterias for inplant feeding or general family convenience; provisions for transportation by bus; expediting the procurement of tires and gas for out-of-town employees; provision of sickness and accident insurance benefits; giving of rest periods to relieve fatigue; and more attention to organization of outdoor recreation for employees.

Physical-fitness programs have been put into operation on a nation-wide scale by the Federal Security Agency to curb absenteeism and other handi-

(*Continued on page 221*)

British TRICOT Machine Fastest Yet Announced

HIGHLIGHTS: Speed of 1000 courses per minute claimed for 84-in. width. New needle used; cams eliminated. Courtaulds sponsoring development through F.N.F., Ltd.

By OTTO ENGELHARD
Product and Development Engineer, Sherman and Associates

DEMONSTRATION of the radically new tricot machine sponsored by Courtaulds, Ltd., in Nottingham has created considerable interest throughout the textile industry. The machine has been produced by F.N.F., Ltd., (which was organized in 1935 by Courtaulds in conjunction with Morton Sundour Fabrics, Ltd.), but is not yet in production.

This new machine is 84-in. wide, 28 gage, and operates at a speed of 1000 motions per minute, which is much greater than any other existing design. It has a stopmotion which stops the machine if one thread breaks although nothing is made public about its design. Several known features deviate radically from accepted practices.

TONGUE NEEDLES. Instead of spring needles, tongue needles are used. This eliminates the presser bar completely, shortens the needle throw, and eliminates or minimizes elements which prevented the prewar design from achieving higher speed, as well as elements which caused a great deal of vibration. The needles are mounted as shown in Fig. 1.

Fig. 2 shows diagrammatically the design of the tongue needle. *A* is a tubular needle in which the tongue *B* slides. Both tongue and needle are positively moved by eccentrics as shown in Fig. 3.

This leads us to another important feature: cams are replaced by eccentrics, which are more accurate than cams. They are machined as part of the shafts and run in oil. In order to get the necessary dwell, two eccentrics are on parallel shafts and run at different speeds.

Fig. 3 shows the driving mechanism for the tongue *A*. It is fastened to the tongue bar *B* by clamps. The bar is moved up and down by guide rods *C*. Each rod is pivoted at *D* to the center of a two-armed lever *E*. This lever is linked by connecting rods *F* and *G* to a pair of eccentrics *H* and *I* on the shafts *J* and *K*. (Similar arrangements are made for the movement of the tubular needle bar *A* in Fig. 1 and for the guide bars *B*.)

Another feature is that the thread guides are cast in plastic to make them lighter. Let-off is achieved by means of nip rolls which permit all of the yarn to be run off the beams, if properly made.

The main mechanisms are supported on a rigid box bed as shown in the photograph. This simplifies the erection of the machine and makes it independent of floor conditions. It is claimed that on the average only one thread breaks in every 100 yards of fabric.

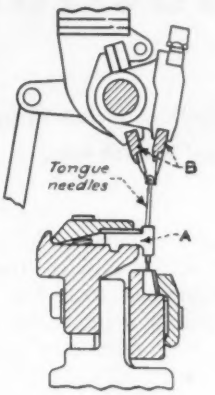
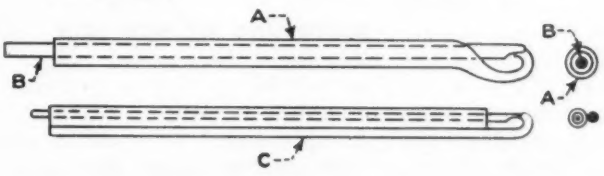
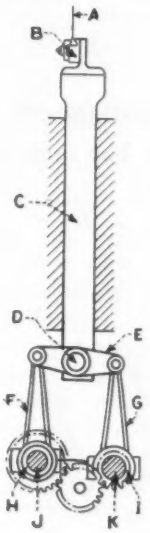


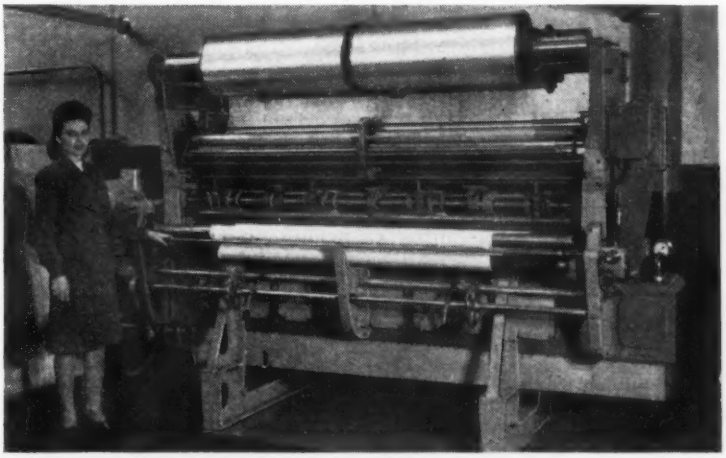
Fig. 1. Cross section showing two guide bars and needle bar.

Fig. 3. Two eccentrics are used instead of the customary cam and follower.

Fig. 2. New tubular needle. A is needle shell; B, tongue. Needle used on demonstration machine is sketched as C.







This machine, the result of seven years' work, is still in the development stage, according to information from England. It is understood that there are plans to use a somewhat different needle from that in the demonstration machine, that the let-off (yarn feed) will be changed, that a shorter stroke for the sinkers is contemplated, and that the height is to be reduced. The machine is reported to operate at 69% efficiency.

LOOMFIXER'S TOOLS—Weapons of Production

HIGHLIGHTS: Tool boxes should include various wrenches, including open-end, box, setscrew, adjustable, monkey, pipe, and special wrench sets.

LOOMS ARE WEAPONS OF PRODUCTION. Without the efficient operation of looms, our armed forces would find themselves without clothing, without much of their present equipment, and without shelter in the field. Without adequate tools loomfixers would be handicapped in maintaining loom efficiency.

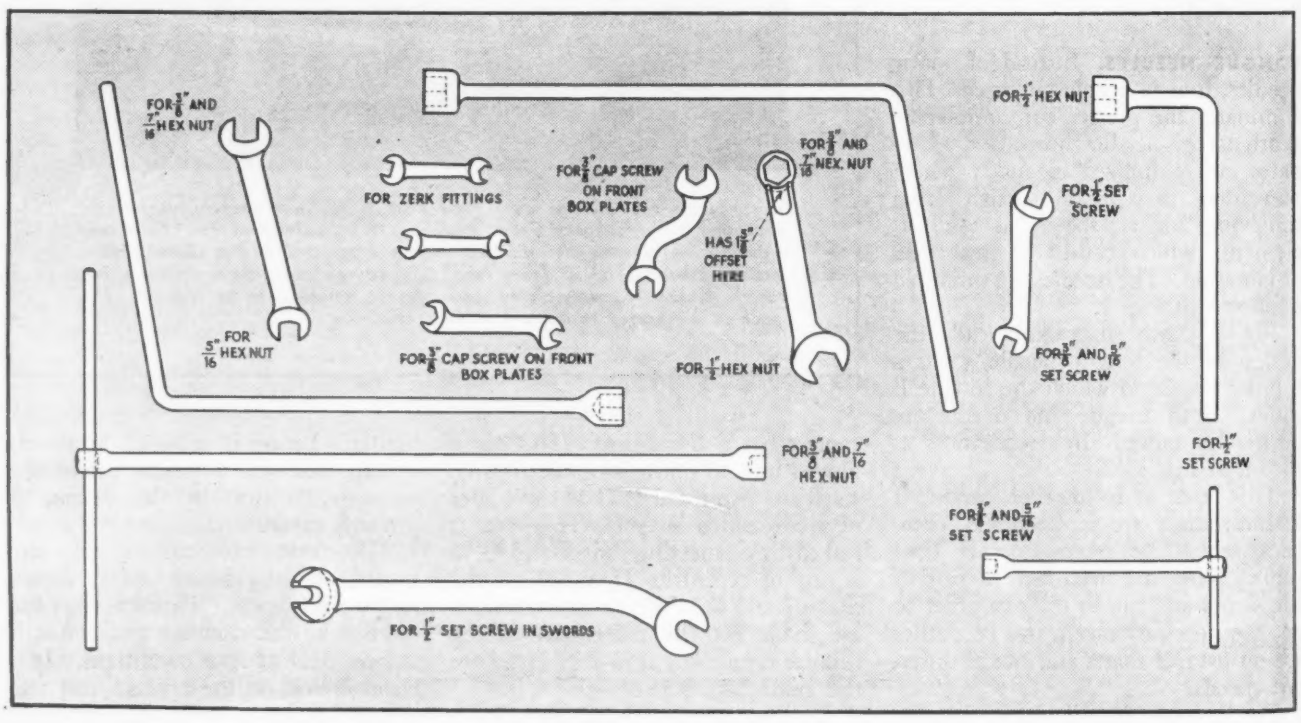
This is the second in a series of articles intended to illustrate and describe the various tools which should be found in the tool box of a loomfixer. The first article, covering simple measuring tools, appeared in the January issue of TEXTILE WORLD. This article covers wrenches, and the next one will describe other hand-working tools and various gages.

SPECIAL WRENCH SET. A special wrench set has been assembled by Draper Corp. for use by loomfixers servicing Draper looms. This set, shown in the accompanying illustration, has been designed to fit the various size nuts and adjusting screws and will permit access to numerous hidden spots which require adjustment.

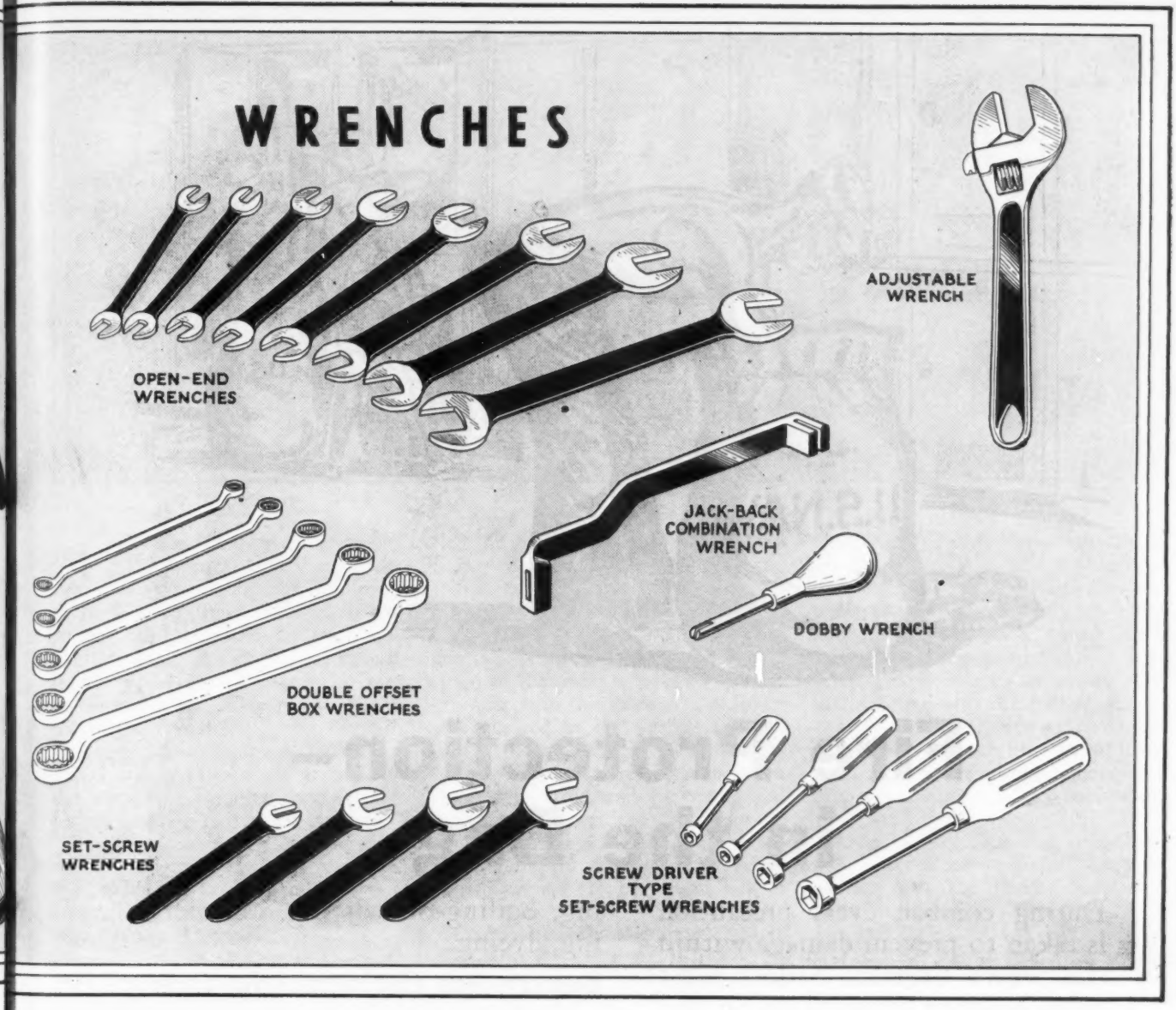
ASSEMBLING WRENCH SETS. Many loomfixers prefer to buy various types of wrenches as they need them so as eventually to make up a complete set. A well-rounded set would consist of open-end wrenches, box wrenches, those developed for handling setscrews, an adjustable wrench, and a pipe wrench.

The best quality wrenches, over a period of time, cost the least. Cheap wrenches will slip and break, frequently causing serious injury to the user.

Combination open-end wrenches, having openings at both ends set at


FOR 3/8" AND 7/16" HEX NUT
FOR ZERK FITTINGS
FOR 3/8" CAP SCREW ON FRONT BOX PLATES
FOR 3/8" AND 7/16" HEX. NUT
HAS 15/16" OFFSET HERE
FOR 1/2" HEX NUT
FOR 1/2" HEX NUT
FOR 1/2" SET SCREW
5/16" FOR HEX NUT
FOR 3/8" CAP SCREW ON FRONT BOX PLATES
FOR 3/8" AND 5/16" SET SCREW
FOR 3/8" AND 7/16" HEX. NUT
FOR 1/2" SET SCREW
FOR 3/8" AND 5/16" SET SCREW
FOR 1/2" SET SCREW IN SWORDS

Special wrench set developed by Draper Corp. for servicing Draper looms.



an angle of 15°, can be used for most purposes about looms. This type of wrench is advantageous because it actually combines two wrenches in one and will fit most out-of-the-way places. When it is necessary to loosen a nut in a tight place, a 15° wrench will almost always do the job. Turn the wrench over after every stroke. Thus by flopping the wrench the angle of the head is reversed and the wrench will always fit the next two flats of the hexagon nut so that it can be turned off. This trick will enable a fixer to turn a nut continuously when the wrench movement is limited to a 30° turn.

Box wrenches may be used for open work. This type of wrench has a "box" that actually surrounds the nut or bolt head. The box has 12 interior notches which, when used with a hexagon nut, will permit tightening of a nut when a minimum stroke of 15° is permitted. Other advantages of box wrenches are that the wrench cannot slip, and the nut cannot be spread because the nut is completely surrounded by the box, which applies pressure to every one of the six faces.

While a set of 45° box wrenches will speed up work, and consequently should be used wherever possible, their use is particularly advisable where sunken or concealed nuts and bolts must be adjusted. Combination open-end and box-end wrenches are not useful for loomfixers.

Purchase of a set of the recently-developed setscrew wrenches is desirable. Some of these wrenches are in the form of a screwdriver which has a wide, circular end with a recessed section in the center to fit over the setscrew. These wrenches prevent slipping and permit accurate adjustments. Whenever possible, they should be used because of their safety factor and their ability to permit high-speed adjustments. Other types of these wrenches are in the form of small open-end wrenches. Some fixers prefer this type of wrench.

An adjustable wrench and a monkey wrench of the larger sizes should be included in every fixer's tool kit for heavy-duty work which requires that extra pressure be applied. A pipe wrench is used for turning shafting and rods. This wrench should not be used on bolts and nuts as it will damage these parts.

SPECIAL WRENCHES. All fixers who work around dobby looms find that a peg wrench is a "must". Also, a combination jack-back wrench must be had. Many fixers, instead of purchasing these two wrenches from a textile supply house, prefer to make their own. Those that have access to the machine shop find the manufacture of this wrench a simple matter.

Sometimes fixers buy sets of socket wrenches. While these speed wrenches may, on a number of occasions, be used to advantage, it is felt that their use about a loom is inadvisable because of the great variation in sizes of most nuts and bolts used in loom construction.

Fire Protection– in the Bag

During combat, every precaution is taken to prevent damage within the crews' quarters. Sailors must stow bedding, spare clothing and other gear in fire-proof cotton sea bags.

Made of a heavy blue cotton duck cloth, these sea bags are coated with a fire-retardent synthetic resin. They're tightly packed, jammed full of every necessity of today's greatest travelers . . . safe from weather and fire.

The many uses of cotton by our Navy alone has made cotton one of the most vital of war materials.

In the Wet End of Textile Finishing, Butterworth Machines are working day and night—bleaching, boiling-out, drying, calendering, dyeing.

Butterworth Engineers offer their cooperation to mills seeking to increase productive capacity . . . to repair or replace obsolete equipment . . . to develop new machines . . . to improve plant layout.

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Butterworth

THE CLOTH ROOM Is Modernized

HIGHLIGHTS: Cloth shearing and folding synchronized. Women handle cloth from folder to grading table. Cloth is processed continuously from sewing head to grader without lifting or hauling. More room and better routing of cloth obtained.

MILLS PRODUCING print cloths and other volume fabrics are showing increased interest in the modernization of their cloth-room machinery and methods and are very likely to bring the cloth-room departments up-to-date as soon as new machinery is available. An installation recently completed at Pacific's Olympia Mills plant in Columbia, S. C., is a good example of some of the improvements that may be expected in other mills after the war.

The cloth room of this print-cloth mill was originally designed to handle the production of about 2,400 looms, or roughly about a million and a quarter yards a week.

NEW LAYOUT. A completely new layout was made of the cloth room, using the most modern machines. Six lines of machines were set up in such a way that the cloth could be processed from the sewing head through the shear and folder continuously, and with only a slight interruption in the flow of material as new rolls were sewed on and the folded cloth was doffed. The speed of the shear was set to 100 yd. per min., and the speed of the folder was adjusted to 107 yd. per min. to care for normal stoppage. Cloth scrays of large capacity were placed between the sewing head and the shear and between the shear and the folder, to allow the cloth to be built up in reserve ahead for the shear and folder and to prevent stoppage from lack of cloth supply.

One unit can handle approximately 225,000 yd. in one 48-hr. shift, which cares for the production of one shift in the weaving.

Each line consists of equipment as follows: Two welded channel-iron cloth-supply racks with a capacity of 50 or more rolls each, a sewing head and cradle, and adjustable cloth scray, a Hermas shear, another cloth scray, and finally a Curtis & Marble cloth folder with air-operated table. A long grading table extends across the room at right angles to the folders and far enough away to allow a work alley for the folder operator. Fluorescent lights are located at critical points along each line of machines and over the grading table.

Operation of each line is continuous, from the sewing head through the folder, with the sewing head and shear regulated to keep the folder supplied.

The heart of the synchronized line of machines is the large-capacity scrays which hold the reserve supply of cloth for the shear and folder. These scrays slope from about 6 ft. above the floor

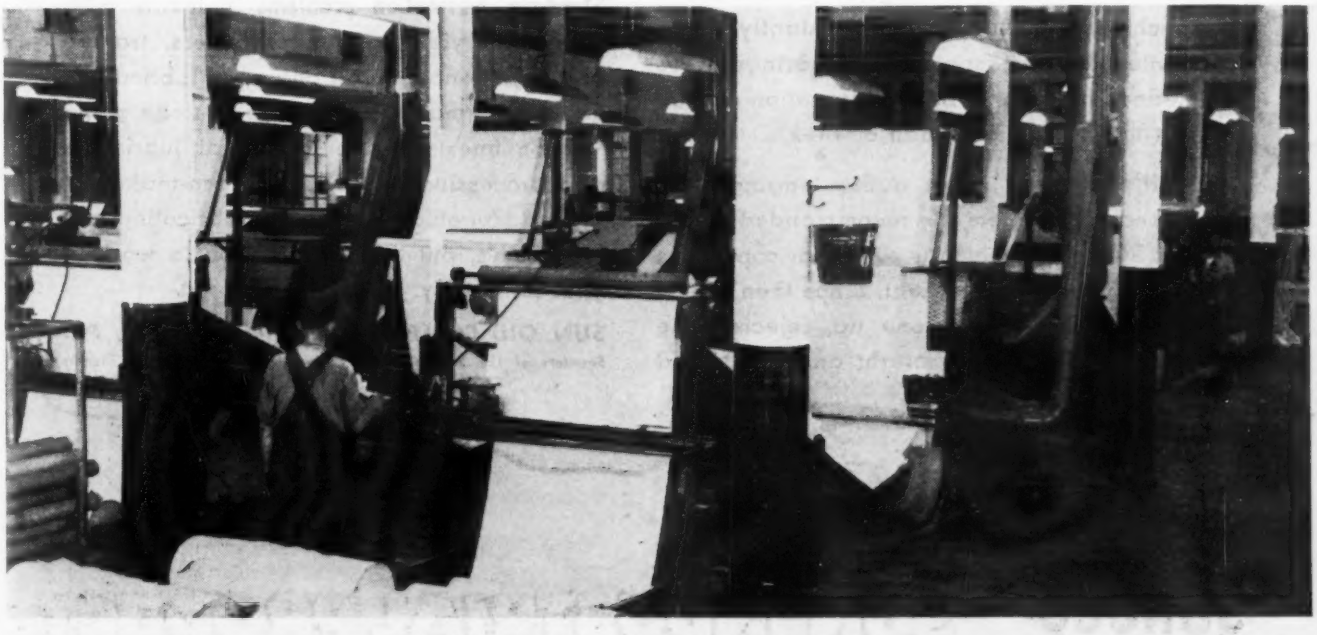
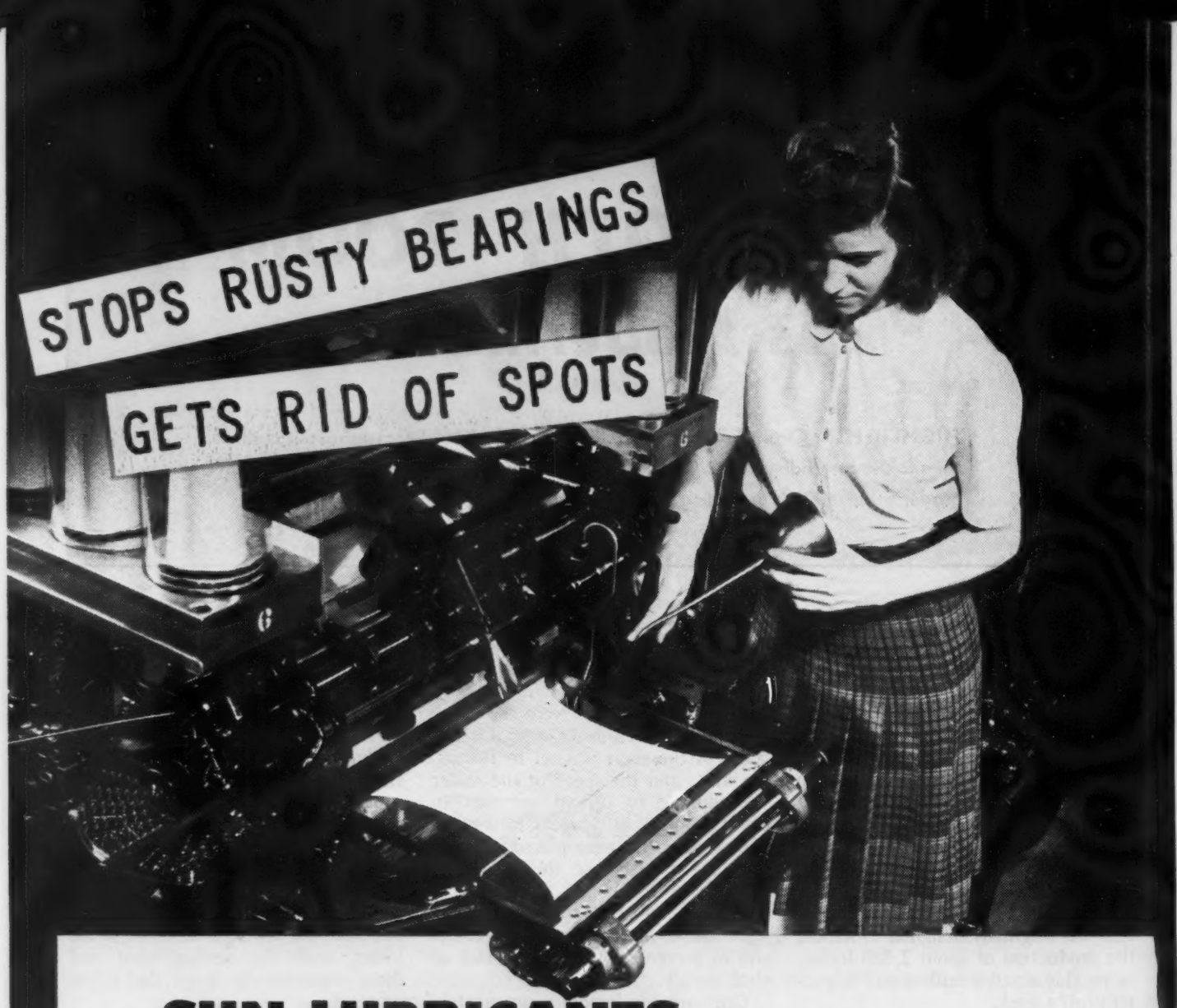


Fig. 1. Cloth-room machinery for print cloth of the Olympia Mills is one continuous range from sewing to folding.



SUN LUBRICANTS . . .

Keep Bearings Clean in Hosiery Mill, End Problem of Rust Spots

A Pennsylvania hosiery mill had continued trouble with rusty bearings on full-fashioned machines. Stockings were constantly being spoiled by rust spots. The bearings were cleaned frequently, but condensation caused rust to return in less than a week.

Spotting stopped when a Sun engineer attacked the problem. He recommended a special Sunoco oil which is suited for conditions where moisture is present. Since then, stocking production has gone up, rejects gone down. Bearings stay bright and clean and last longer. Shut-downs have been reduced.

Stubborn lubrication problems in textile mills frequently yield to Sun engineers, trained and experienced in all phases of lubrication. These men make available to you one of the world's finest lines of industrial lubricants and processing oils. For better manufacturing, and for efficient, low-cost lubrication and processing, put this combination to work in your mill today. Write to

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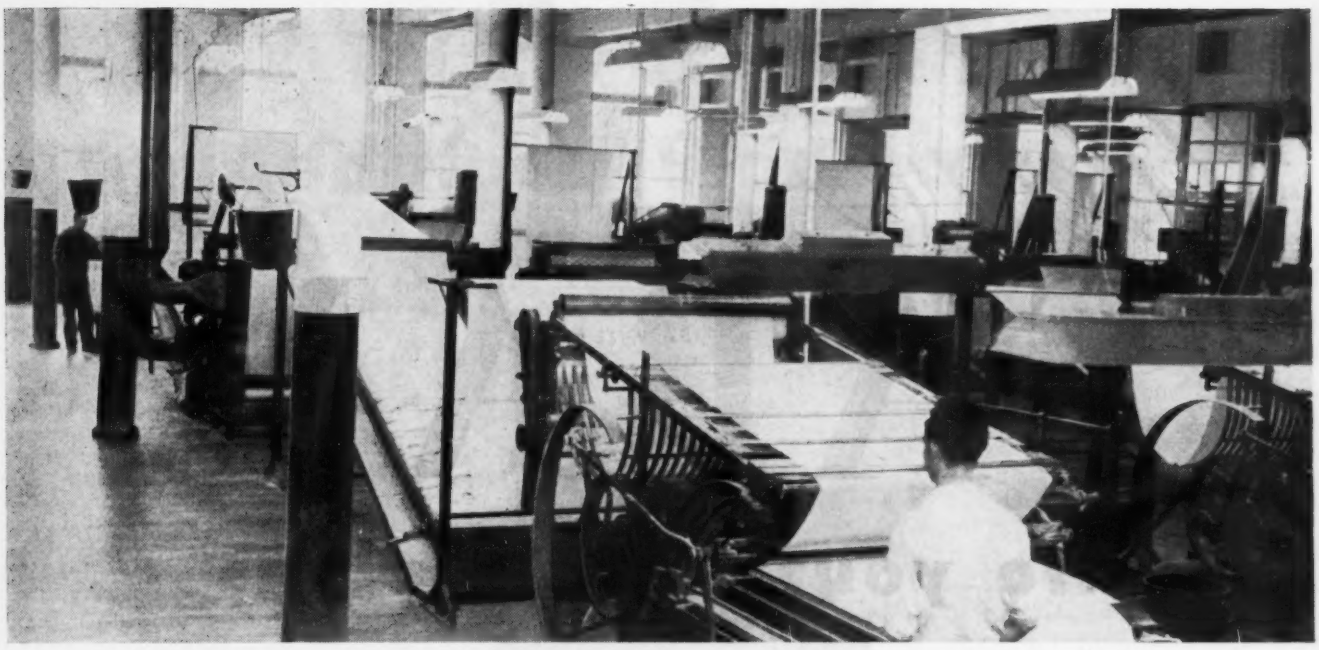


Fig. 2. Another view of the synchronized cloth-room machines showing the folding and the grading operations.

down to the floor; and the cloth, which is run into the scray, travels by gravity from the high to the low point before it is pulled into the next machine. The scrays have adjustable sides to suit different widths of cloth.

Imperfections are marked at the folders and the cloth passed on to graders for final classification, and then passed along to be loaded onto the trucks that carry cloth to the sewing machines for preparation for rolling. Finally, the cloth is put through the rolling head into large rolls which in turn are prepared for shipment.

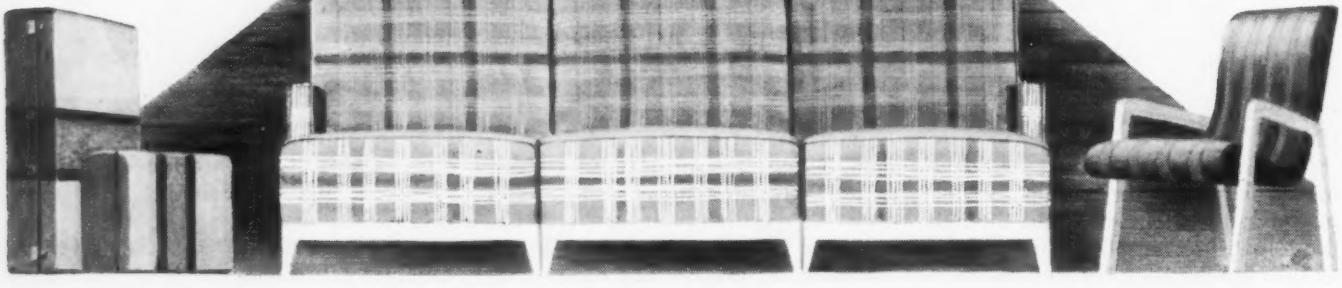
SPECIAL FEATURES. One of the features of this new set-up in the cloth room is that with women operating the folders; the critical manpower shortage is somewhat eased here. The new air-operating folder table enables women to handle the cloth, and a small wooden leaf extending from the grading table to the front of the folder allows the operator to slide the cloth to the grading table without lifting. This leaf is hinged to the grading table to allow the operator to drop it away from her folder so that she can move freely up or down the alley. Formerly the folders were tended by men, because the job was one that required lifting of heavy rolls. Now even a slightly built woman can handle a 400-yd. roll without lifting and without strain. The folder with its air-operated table makes it possible to raise the cloth to the correct level for transfer to the grading table without the operator having to raise heavy loads by levers, thus making the work less tiring. The air supply for the folder is supplied by compressor that is part of the folder installation.

Men load the cloth on the sewing head and operate the sewing machine, taking cloth from the special platforms for the cloth supply. Each platform is inclined at a slight angle to roll the cloth to the work station so that the actual amount of cloth hauling at the loading end is reduced to a minimum. More floor space is also made available because of these platforms and the compact arrangement of the machines.

Lighting has been especially well cared for with fluorescent lights located from the sewing head to the grading table. Lights are located as follows: two fluorescent lamps at the loading platform, two over the sewing head, two over the shear, two over the second scray, three over the folders, and one over the grading area.

Fig. 3. View of the folding and grading operations of Olympia, showing output of synchronized ranges of cloth room.

Weave SARAN into your textile plans



Always fresh and beautiful, this Dow material has basic sales appeal

Why do we say that Saran has basic sales appeal? What are the features that consumers want and appreciate—features that will cause them to choose Saran products in preference to others?

We think that Saran has a number of advantages that will interest the textile industry. That's why we're telling you about Saran now.

Foremost among these is durability—Saran's toughness and resistance to abrasion. That's a point that will appeal to buyers of luggage and upholstery and seat covers and other industrial fabrics where long-lasting quality is required.

Another important advantage is resistance to dirt, ink, and grease. They don't harm Saran fabrics a bit and can be wiped off with a swish of a damp cloth. We think that's mighty interesting news to housewives looking for draperies or upholstering material.

Finally, Saran's color and beauty—qualities it retains indefinitely—appeal to all buyers. They like its freshness and sheen and its all-around good looks.

These are some of the reasons why we at Dow think the textile industry will find it worth while to investigate the possibilities of this new fabric. Perhaps it will fit into your future plans.

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AVAILABLE THROUGH LICENSEES

Saran molding compounds, produced by Dow, are extruded as "thread" by skilled licensees. All of them are in a position to give you details about Saran and its possibilities. These licensees include:

★ Allied Plastics Co., Los Angeles, California
★ Firestone Tire & Rubber Company, Akron, Ohio (merchandised under the name Velon fabrics)
★ Hodgman Rubber Company, Framingham, Mass.
★ Irvington Varnish & Insulator Co., Irvington, N. J.
★ National Plastics Products Co., Odenton, Md.
★ Visking Corporation, Chicago, Illinois (merchandized under the name Permalon)
★ Western Felt Works, Chicago, Illinois

DOW PLASTICS

ARMY NEED Is Urgent for Additional 9-oz. Sateen

HIGHLIGHTS: **Procurements fall short. Use of fabric in general combat uniform requires staggering yardages to keep Yanks fighting in Europe. Manufacturing detail, to permit mill to enter production, are given.**

RECENT DEMANDS placed on the Quartermaster Corps for increased quantities of 9-oz. sateen, U. S. Army Specification No. 6-337, has resulted in bids being undersubscribed. In recent weeks the need for this fabric have been doubled, as it is used for the American combat uniform.

Under the grueling rigors of warfare, as being conducted on the Western Front, the life-expectancy of combat uniforms have been reduced from terms of weeks to terms of a very few days. Because of the present urgency, it is requested that every mill that can make this fabric consider the possibility of so doing and then contact the contracting officer. Specifications and samples of the fabric will be supplied, along with all other possible help necessary to get into production. Any mill that can or has made the 8.2-oz. twill for the Army will experience very little difficulty in going onto this type of fabric.

While specifications and details of construction for the 9-oz. sateen were given in the March, 1943, issue of TEXTILE WORLD, recent changes in specifications have resulted in several variations, most which are outlined.

ABSTRACT OF SPECIFICATION. This Army specification, No. 6-337, which supersedes P.Q.D. No. 245D, aside from permitting Type I and Type II fabrics, sets up two new classes of fabrics. Class A is made of two-ply yarns, while Class B is made of single yarns for the filling and two-ply for the warp.

Physical Requirements: The weave remains the same, as does the cloth width. Finished material requirements remain the same, with the exception of reduction in specified fabric strength.

Type I—112 ends and 68 picks per in.; 150 lb. breaking strength, warp; 125 lb. breaking strength, filling.

Type II—116 ends and 64 picks per in.; 150 lb. breaking strength, warp; 110 lb. breaking strength, filling.

The American general combat uniform consists of a water-repellent, wind-resistant field jacket with field trousers, both utilizing 9-oz. sateen. Combat boots eliminate the necessity of leggings. Additions of pile liners and woolen trousers beneath the field clothing equip the soldier for cold weather, while additional layers on top equip him for the Arctic. *Photo by Phila QM*

MANUFACTURING DETAILS. The yarns used in the manufacture of 9-oz. sateen may be produced by following the organization as given in the April, 1943, issue of TEXTILE WORLD, pages 88 and 89; organization No. 3 covers opening and blending, picking, carding, combing, and drawing. Roving is covered in organization No. 4, spinning in No. 5, winding and warping of warp yarns in No. 2, whereas spinning of filling yarns is given in No. 6 and the winding and twisting of these yarns are covered in No. 3. Yarn sizing is covered in slashing organization No. 3.

A suggested gray goods construction is as follows: Type I—loom width, 40 in.; thread count, 105.3 by 70; 1.58 yd. per lb. Warp yarns, 36/2; filling yarns, 24/2. The warp consists of 4211 ends of 36/2, including 24 ends of 36/2 used as selvage yarns for each side.

Fabric finishes to 36 in. and shade is O.D. No. 7. The cloth is woven with a filling face, counting with two. In such instances care must be exercised to keep grease from the face of the cloth, as it will show up prominently on the face and result in excessive rejects.

Construction of Type II fabric is similar to that of Type I, except that the weave calls for a four-harness filling-effect crowfoot weave. Loom width is 40 in. and thread count is 116 by 64, weight is about 1.60 yd. per lb.

Looms suitable for weaving both of these fabrics are: Draper models E, X, X-2, K, XK, and XD; and Crompton & Knowles models C-3, C-4, C-5, and C-6. Very few changes are necessary in these looms. Speeds should be adjusted to obtain maximum production.

FINISHING DETAILS. The cloth shall be closely singed, partially mercerized, then dyed and made water-repellent. The cloth shall be dampened, given a hot-bowl calendering, and fully shrunk.

Scouring and mercerizing procedure consists of first inspecting the cloth, sewing, singeing on both sides, and then desizing. Following this, the cloth is opened on drying cans, rolled, and then boiled-out in open width. Mercerization follows and finally the cloth is rolled prior to dyeing.

It is believed that most yardage of 9-oz. sateen will be procured in O.D. No. 7 shade, and accordingly a formula for this shade is given:

Olive Drab No. 7—Pigment Pad Method

Dye	Oz. per gal.
Vat Khaki 2G (Pr. 122)	69.10
Vat Olive R (C. I. 1150)	7.44
Vat Olive Green BN	0.80

The dye method outlined in the March, 1943, issue (page 72 to 74) along with the modifications suggested in the June issue of the same year (pages 94 and 95) should be followed. Finishing includes the application of a water-repellent finish, such as Zelan, as covered in the February, 1943, issue (pages 83 to 85). Following the Zelan treatment, a dampening operation, a calendering on a hot-bowl calender, and Sanforizing or other shrink-treating process are given. The cloth shall be preshrunk so that when subjected to the laundering tests it will not shrink more than 2% in the direction of the warp and 2% in the direction of the filling.

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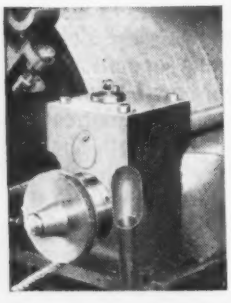
Sta-Put Oils in your comb boxes keep cards RUNNING L-O-N-G-E-R

"Armored oil," we call it, because it is fortified to prevent wear on metal parts. You know from long experience how worn, leaky comb boxes can be a major trouble spot in your mill. High temperatures and frequent need to refill are symptoms of serious trouble.

Why not check over your comb boxes with the Houghton Man, who will recommend a Sta-Put Lubricant for them? By additive treatment of highly refined base stocks we give these oils much greater load-carrying capacity and give them far greater resistance to leakage.



All through the mill these treated, fortified lubricants can be of real service. This scientific improvement of nature's best oils adds little to their cost, much to their useful life. Ask the Houghton Man!

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DURABLE REPELLENCY
Requires Careful Control

HIGHLIGHTS: Instability of solutions used in finishing must be considered. Two general types in commercial use survive normal cleaning. Reprocessing of fabrics need not impair repellency.

By RAYMOND A. PINGREE
Chemical Director, Warwick Chemical Co.

In an article appearing in the December, 1944, issue of TEXTILE WORLD Mr. Pingree discussed the chemical nature and the application of the non-durable types of water repellents. In this, the second and last, the chemical properties and application methods of several of the so-called durable types are treated in detail. Mr. Pingree says, "The term 'durable' as applied to textile finishes is generally recognized as signifying that the desirable features of the finish will be retained during the life of the fabric and will not be destroyed by the normal laundering or dry-cleaning processes to which the fabric is subjected."

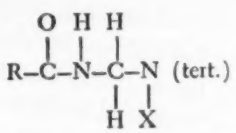
PATENT LITERATURE reveals that for many years attempts have been made to impart durable water-repellent properties to textile fabrics. The first process, however, that attained any practical significance in Great Britain and the United States was that of Baldwin, Evans, and Salkfeld on which a patent was granted in Great Britain in 1937[1]. Since the advent of this process, durable water-repellent finishes have become an increasingly important factor in the textile industry. The United States Army has recognized the many advantages of these durable treatments, as compared with the non-durable, and has purchased literally billions of yards of fabrics with this finish.

The use of durable water-repellent fabrics by the Army has encouraged much development and research work in this field. This work, which is still under way, has thus far resulted in improvements in the water-repellent compounds used, in their methods of application, and in the evaluation of the treated fabrics.

The Army Quartermaster Corps recently completed an extensive study of the durability and utility of durable water-repellent fabrics under actual service conditions. Nine different treatments were submitted to it for test. The treated fabrics were made up into field jackets and issued to an Army camp, where they were worn for approximately one year by men in training. During this time, the jackets were subjected to the usual laundering or dry-cleaning treatments. At regular intervals during this period, the fabrics were examined and tested.

Of the nine treatments, only four held up under the conditions to which they were subjected during this test period. Of these four treatments, one was applied from an organic-solvent medium and for obvious reasons is limited in its usefulness; one was a polymerized-oil emulsion and as yet has not been put into general use; the other two were quarternary ammonium compounds. These two latter products have been used almost exclusively in processing all of the durable water-repellent fabrics for the Army to date, hence this paper will be confined to a description of their application.

CHEMICAL NATURE. The first of these products to appear on the market was developed in Great Britain by Baldwin and Walker[2]; and its application to textiles, as previously mentioned, was described by Baldwin, Evans, and Salkfeld[1]. It belonged to a group of compounds of the following general formula:



in which R stands for an aliphatic hydrocarbon radical.

N (tert.) stands for pyridine, a c-alkyl pyridine or quinoline.

X stands for the monovalent anion of an acid.

Difficulties were encountered in the practical scale preparation of these compounds, but these were overcome by improvements and refinements developed by Shipp[3], Wirth, and Deese[4].

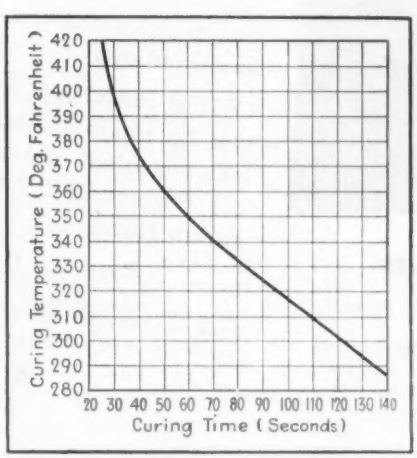
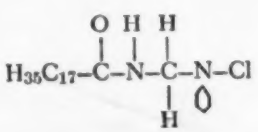


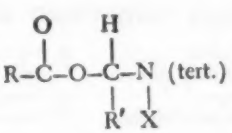
Fig. 1. Curve shows curing time plotted against temperature for durable water-repellent finishes.

The first of these compounds to achieve any practical significance in this country was composed essentially of stearamidomethylpyridinium chloride:



This compound has been used extensively for water-repellent finishing and is probably still representative of one of the two types which are at present in use. To prevent confusion, this type of compound will be referred to as "Type A" compound in the following.

The second type of quarternary ammonium compound to be used for this purpose was developed by Rust[5]. It comprised compounds of the following general formula:



in which R stands for an alkyl radical containing not less than 10 carbon atoms.

R′ stands for H or an alkyl, aryl, or aralkyl radical.

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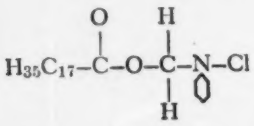
N (tert.) stands for a tertiary amine such as pyridine and quinoline.

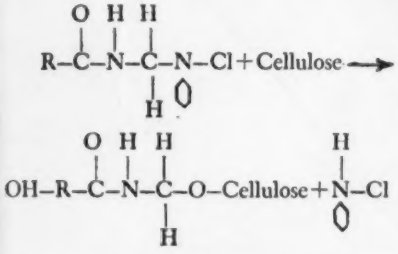
X stands for a halogen or an organic-acid anion radical.

The compound of this type which was exploited to the greatest extent was stearoyloxymethylpyridinium chloride.



A further improvement over this process was later made by Rust[5] in which the acyl chloride is reacted with a nitrile before methylating. In the following, this type of compound will be referred to as a "Type B" compound.

It has been proposed by Zerner[7] and others that these compounds are capable of reacting with cellulose at the hydroxyl groups; thereby, they cause the hydrophobic part of the compound to become attached to the cellulose molecule, through oxygen, while the hydrophilic group or tertiary amine salt is split off.



No satisfactory proof has yet been offered to support this theory, however; and there is a widespread belief that the durable water-repellent effect which is produced by these compounds is due simply to a tenacious water-impervious film deposited on the fibers. Regardless of which hypothesis is correct, the fact remains that when these compounds are properly applied to textile fabrics, they become extremely difficult to remove by the usual laundering or dry-cleaning processes.

GENERAL APPLICATION PROCEDURES. Both of the two types of quarternary ammonium compounds described previously are applied to the fabric in much the same manner. They are soluble, or dispersible, in water and are applied from that medium. The fabric is treated by padding through this solution, after which it is dried on a tenter frame or other type of hot-air dryer. The water-repellent compound is then insolubilized by subjecting the cloth to an additional heat treatment. Soluble decomposition products are then removed from the fabric by passing it through an alkaline detergent solution. The material is then rinsed well and dried.

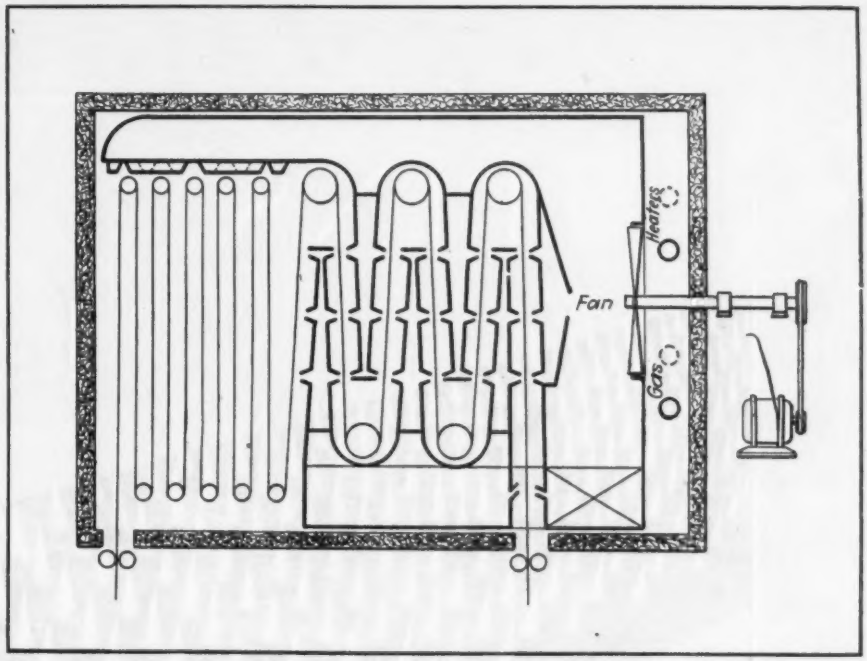


Fig. 2. High-temperature, hot-air oven for curing fabrics treated with durable water-repellents is especially important to certain finishes.

In the successful processing of durable water-repellent finishes, many of the same precautions must be observed as with the application of non-durable water-repellents. First, the fabric to be treated should be uniformly absorbent and free from water-soluble impurities. Second, the padding solution must be properly prepared. Third, correct equipment for padding, drying, curing, and washing must be used. Make-shift equipment generally results in poor work.

Of the two type of compounds in use, Type A seems to be more effective on mercerized fabrics, while Type B works very well on both mercerized and unmercerized goods.

The type of color used in dyeing the fabric does not influence the water-repellent treatment with these compounds as much as it does when the wax-emulsion compounds are used. Cotton fabrics dyed with vat, sulphur, or naphthol colors may be treated successfully. An objection to their use on naphthol-dyed fabrics, however, lies in the fact that crocking is somewhat increased by the treatment.

The dyed goods should be thoroughly rinsed before attempting to apply the water-repellent finish. It is particularly important that they contain no trace of alkali or of anionic fatty substances. These quarternary ammonium compounds are cationic in character and are very sensitive to the presence of long-chain, fatty-acid anions.

PREPARATION OF SOLUTION. In preparing the padding solution, the manufacturer's instructions should be followed faithfully. These compounds are inherently unstable; and, if certain precautions are not observed, premature decomposition may take place.

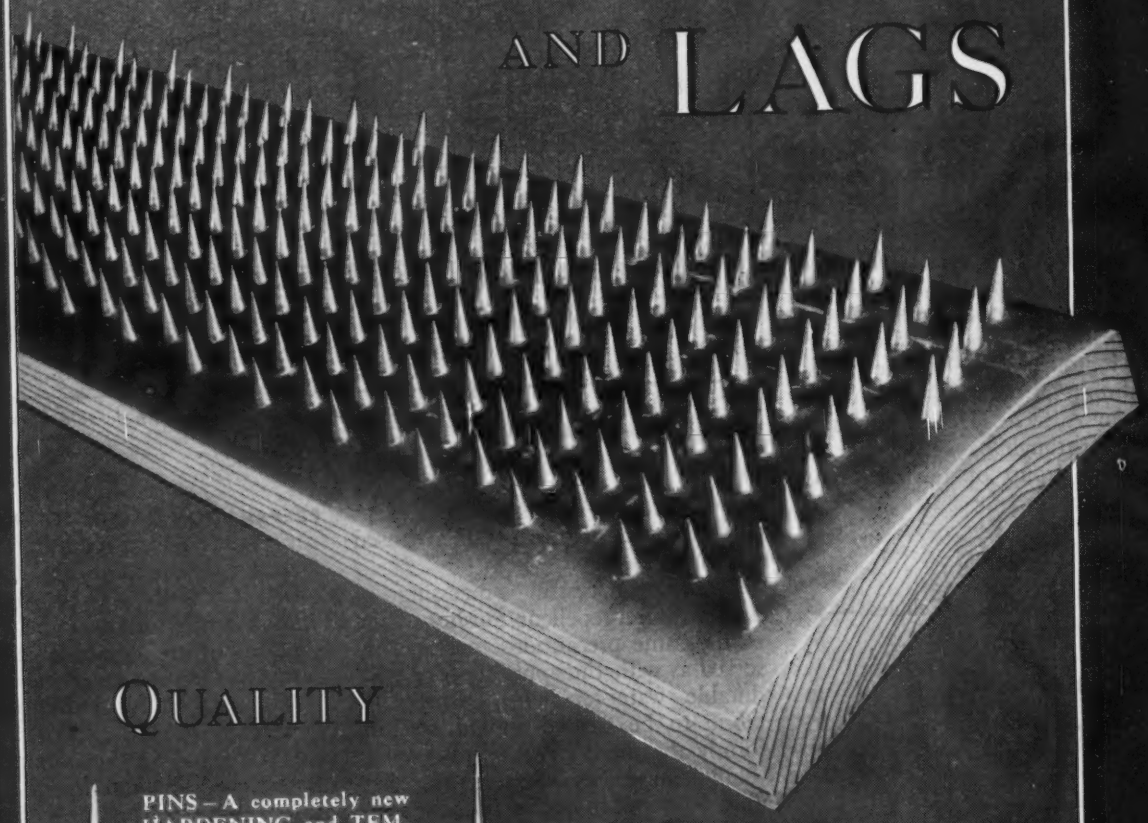
The proper concentration to use depends on the type and condition of the fabric and on the amount of solution picked up in the padding operation. In general, a 5% deposit of water-repellent compound on the fabric will yield excellent results. Therefore, if the pickup is 50%, then a 10% solution of water-repellent compound will be required.

In preparing solutions of Type A compound, the material is usually dispersed in water at a temperature of approximately 100°F. (38°C.) If the temperature is permitted to go too high, premature break-down of the emulsion may occur.

In preparing solutions of Type B compound, the material is usually dispersed in about one-half of the total amount of water at a temperature of 140° to 160°F. (60° to 70°C.) and is then diluted to volume with cold water, so that the final temperature of the solution in the supply tub is approximately 120°F. (50°C.) It is particularly important that the temperature of the solution in the padder box does not go below 100°F. (38° C.), as below this point the material tends to pick off on the guide rolls in front of the dryer.

In order to prevent tendering of the fabric, a small amount of an alkaline buffering agent, such as sodium ace-

PINS AND LAGS



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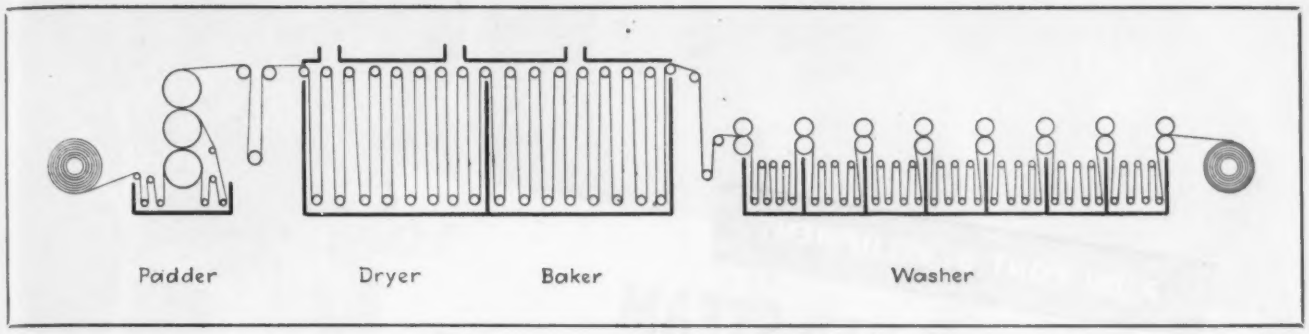


Fig. 3. Continuous unit with padding, drying, curing, and washing equipment for applying durable water-repellent finishes is costly to build but economical to operate.

tate, is dissolved in the padding solution to neutralize the hydrochloric acid liberated during the curing process.

PADDING. The advantages of complete and uniform penetration in the application of the wax-emulsion type repellents have been discussed in a previous article. Penetration to even a greater extent is needed in the application of the durable-type finish.

The use of the conventional two-bowl padding mangle is economically prohibitive for this work. In order to obtain complete penetration on most fabrics with this type of equipment, it is necessary to run at a very low speed or to pad the goods twice. Either procedure would prove too costly in most plants. The two-bowl mangle is being used very successfully, however, where it is supplemented by an immersion box placed immediately in front. A box containing three or four immersion rolls will sometimes permit running speeds as high as 60 yd. per min. and still maintain satisfactory penetration.

The most widely accepted equipment for impregnation of durable water-repellents is the three-bowl mangle, containing one or two immersion rolls before and a similar number after the first nip. This machine is highly recommended for this work and can be used on all types of fabrics. The alternate dipping and squeezing which the fabric undergoes in passing through this unit insure extremely rapid and uniform penetration of the padding solution. For this reason, it is possible to process fairly heavy fabrics on it at speeds in excess of 60 yd. per min.

DRYING. The application of both Type A and Type B water-repellents is practically the same throughout, with the exception of the drying operation. With Type A, it seems quite important that drying conditions be as mild as possible to prevent premature decomposition of the water-repellent compound on the fabric. For this reason, the goods are usually dried at a low temperature and are permitted to retain a considerable amount of moisture. Type B does not seem to be adversely affected by high temperature drying. Thus, little attention need be given to the control of this operation, and the goods are usually allowed to come off the machine in a bone-dry condition.

Tenter frames and loop-dryers are being used quite generally for this work, although dry cans have been used successfully for drying fabrics treated with Type B compound.

The curing operation is probably the most critical part of the entire process. Upon this operation, more than any other, depends the quality of the water-repellent finish produced. If the goods are under-cured, the initial repellency may suffer; but, more important still, the durability definitely will be reduced. If the goods are overcured, the initial repellency will be affected because of the breakdown of the water-repellent film. For these reasons, it is essential that optimum curing conditions be maintained at all times. This is not difficult if proper equipment is used and reasonable precautions observed.

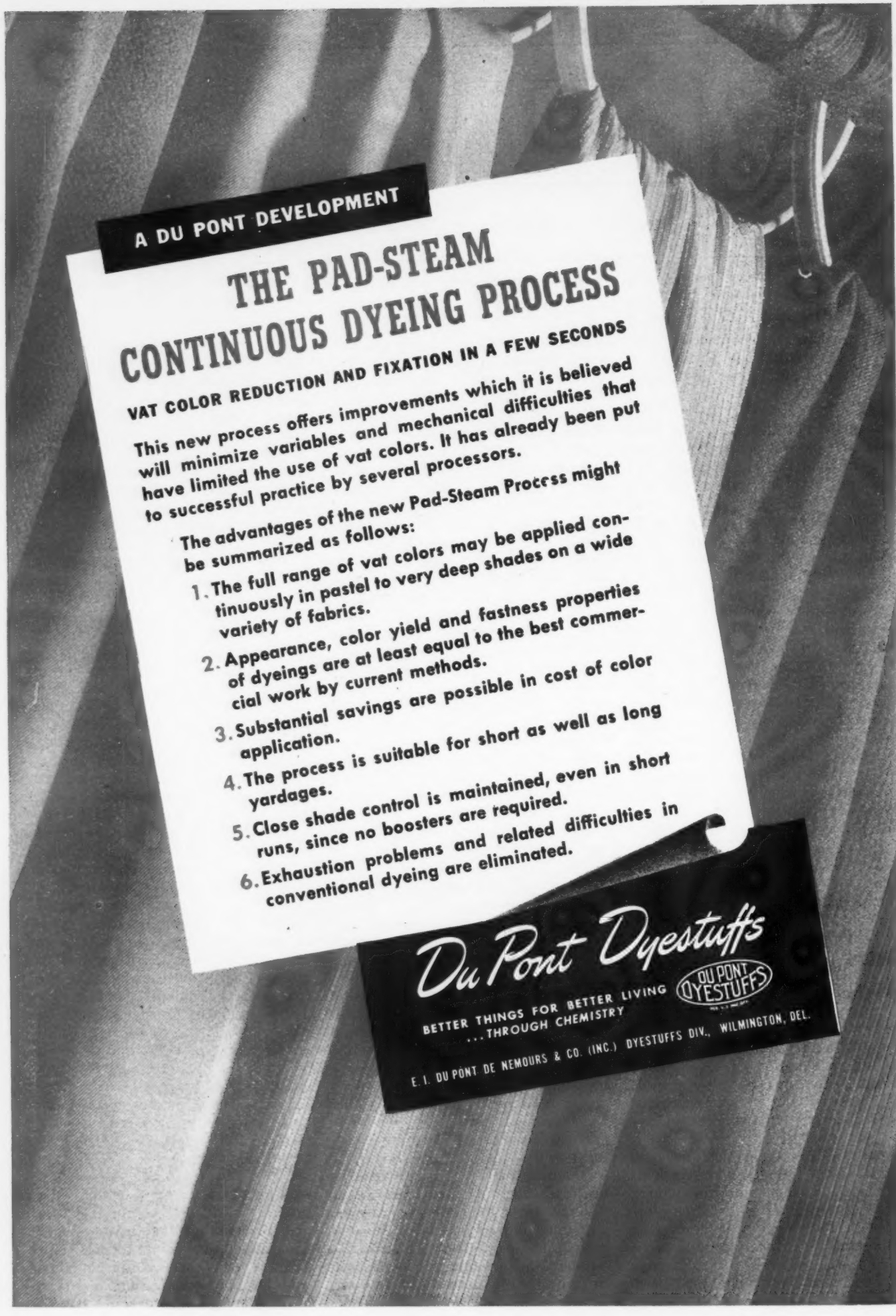
Curing consists of a decomposition of the quarternary ammonium compound in which the hydrophobic fatty radical is split from the tertiary amine salt. With a Type A compound, this decomposition does not seem to take place properly below 300°F. (150°C.) Fig. 1 shows graphically the minimum time-temperature conditions required for complete curing of the latter compound. The data upon which this curve was based were obtained from observations with hot-air curing equipment of the type illustrated in Fig. 2.

A curing machine is essentially a heat exchanger, and its primary function is to bring the cloth to maximum air temperature in the shortest possible time. The specific heat of air is extremely low; therefore, the layer of air in contact with the cloth at any one time contains very little heat. If dependent entirely upon convection currents and the motion of the cloth, the heat transferred from air to cloth would be very slow indeed. In order to obtain a high rate of heat transfer, there must be a rapid and continual change of air over the surface of the fabric. In the type of curing machine illustrated, a rapid flow of air is attained in the entering end by enclosing the fabric in a duct into which the hot air is forced directly onto the surface of the cloth through horizontal nozzles. In this unit, the cloth attains thermal equilibrium in approximately 20 sec. This will vary somewhat with the weight of the fabric, the running speed, and the temperature differential between air and fabric. The curing process does not begin, of course, until the cloth has attained a certain minimum temperature and proceeds at full rate only when maximum temperature is reached. This temperature lag between air and fabric accounts for the almost vertical direction of the curve at air temperatures above 400°F.

This type of curing equipment is used almost universally for insolubilizing the Type A repellent. Owing to the fact that Type B compound will cure at relatively low temperatures, it may also be successfully broken down by passing the goods over a stack of dry cans. With a steam pressure of 10 lb. (gage), the temperature of the can surfaces will be approximately 240°F. (115°C.); and curing will be effected usually within 3 min. This is easily accomplished with a stack of 50 or 60 cans. With this type of equipment, the heat transfer between heating surface and cloth is much more rapid than in hot-air curing devices; and, for this reason, the curing reaction begins much earlier.

NEUTRALIZING. After curing, the treated fabric must be subjected to a neutralizing or washing step to remove the acid decomposition products. This is best accomplished by using an open-width washer, containing seven or

(*Continued on page 222*)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4. The process is suitable for short as well as long yardages.
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INTEGRITY Is Basic For Successful Supervisor

HIGHLIGHTS: Most lists of personal qualities are considered of little practical value. Intelligence should be distinguished from education. Analytical ability needed for sound judgment.

By H. E. HELLIWELL

DURING A RECENT VACATION, I took a busman's holiday and visited a well-known textile mill. The mill manager invited me to attend a conference of department supervisors which was to be held that afternoon. The invitation was eagerly accepted as an opportunity to meet former associates and to determine if their reputations as efficient supervisors were rightly deserved.

The mill manager outlined briefly the method of conducting these supervisors' discussion conferences. Previous to the adoption of the plan for the definite selection of discussion subjects, these meetings were free-for-all, ad-lib discussions of a variety of subjects from the picker room to the cloth hall, with little of general interest to the whole group. This is truly typical of many supervisors' meetings held in many plants.

PLANNED MEETINGS. The plan this manager used was simple but effective. Each supervisor submitted in writing to the mill manager, in advance of a scheduled conference, a subject in which he was interested and which he would like to have discussed at the next meeting. There was only one stipulation. The subject must be of general plant interest and not be confined to any specific department.

From the list of subjects submitted, the manager picked out one or more subjects which he deemed would be of the greatest value to all supervisors in the plant. All available information concerning the subject was gathered, compiled, and summarized. This summary was presented as a basis and a starting point for the ensuing discussion. The advantages of this method for the control and guidance of a discussion were plainly apparent as the conference proceeded.

Are Your Supervisors' Meetings Like This?

Live Meetings Need Good Subjects. *Anyone who has had to sit through a meeting when supervisors' virtues and faults are recounted can appreciate this refreshing viewpoint as to the attributes of success. Time-worn lists, platitudes, and axioms are discarded in search of the real foundation stones upon which those who handle people must build.*

On this occasion, the subject selected for discussion was a question every progressive supervisor has asked himself a thousand times as he goes about solving the many problems constantly arising in department supervision.

What personal qualities should be considered as most essential to the successful supervisor?

The mill manager, as chairman of the conference, submitted a summary of information compiled on the subject as follows:

A review of a few of the many current books, articles, and pamphlets on supervision revealed that a really successful supervisor must possess 55 desirable personal qualities. The same literature also listed 38 undesirable qualities to be avoided by the ambitious supervisor.

It was evident that a large part of this literature relating to the various phases of supervision was written from a purely academic viewpoint and was intentionally kept general in nature. This was done partly to make it equally applicable to all types of industry, but mostly to conceal the authors' limited knowledge concerning the intimate problems of any particular industry.

There appeared to be no real justification for the publication of the usual hackneyed lists of personal qualities required by the efficient supervisor; and it certainly adds to the confusion of the conscientious supervisor who tried to cull out something of value from this bewildering array of inspirational epigrams, mottoes, maxims, adages, and proverbs. Such material may have a certain value for moral guidance, but it will be found of little practical value in solving the many problems of plant and department supervision.

Many leaders of industry state that a large part of our industrial and technical success has been due to the excellence of the supervision in our plants. How many of these excellent, practical supervisors possess a total of 55 virtues? It is very likely that a holder of so many virtues would seek, and be entitled to, a position much more exalted than that of a plant or department supervisor.

Exigencies and unpredictables occur frequently in all departments despite excellent supervision. It is the supervisor's treatment of these occurrences

SYLVANIA NEWS

TEXTILE EDITION

FEBRUARY *Published in the Interests of Better Sight and Sound* 1945

Long-Slim Fluorescent Lamps Will Simplify Wiring and Maintenance

Sylvania Rounds Out Line To Provide Lamp Types For All Textile Mill Needs

Four new fluorescent lamps will soon round out Sylvania Electric's complete fluorescent line, and will offer distinct economy advantages in both installation and maintenance.

"Long-slim" sums up the physical appearance of these new lamps. 42" and 64" lengths will be produced in a ¾" diameter; 72" and 96" in a 1" diameter.

The new lamps are of the instant-starting type, requiring no starter. Elimination of this accessory will reduce the maintenance attention needed. The fact that these lamps have a higher lumen per watt output than any previous type offers a further advantage.

Still another novel feature is that, by proper selection of ballasts, two levels of light output may be obtained.

At present, these lamps are being produced in sample quantities only. The sockets and ballasts will not be available for several months. However, publication of data on the "long-slim" lamps will be of value to textile mills when selecting from Sylvania's complete line the types of fluorescent best suited to their post-war modernization needs.

Another addition is a 13-watt miniature lamp, 21" long and ⅝" in diameter. This lamp is of the conventional starting type, but will require a new ballast.

Other Lamps In Sylvania's Complete Fluorescent Line

In addition to the new lamps described in the adjoining columns, the complete Sylvania fluorescent line includes these types:

STANDARD FLUORESCENT

In 14, 15, 20, 30, 40 and 100 watt ratings.

MINIATURE FLUORESCENT

In 4, 6, 8 and 13 watt ratings.

BLACKLIGHT LAMPS

In 4, 6, 8, 15 and 30 watt ratings. Convenient linear sources of Near Ultra-Violet radiation.

TYPE RP-12

A compact source of Near Ultra-Violet designed to operate on 24-28 volts DC.

THE NEW ADDITIONS TO SYLVANIA'S FLUORESCENT LINE

LONG-SLIM LAMPS	CURRENT MILLIAMPERES	APPROX. INITIAL LUMENS	LAMP LIFE HRS.
42" T6	100 200	900 1400	Life of Long-Slim fluorescent lamps at 200-milliampere operation is expected to be comparable to that of 40-watt standard fluorescent lamps. Definite ratings will be published as soon as life testing is conclusive.
64" T6	100 200	1400 2150	
72" T8	100 200	1400 2350	
96" T8	100 200	1950 3300	

MINIATURE LAMP	CURRENT MILLIAMPERES	APPROXIMATE INITIAL LUMENS	LAMP LIFE, HRS.*
21" T5	160	Daylight . . . 490 White 580	1500 on a 3-hr. Cycle

*Under specified test conditions

SYLVANIA ELECTRIC

SYLVANIA ELECTRIC PRODUCTS INC., Salem, Massachusetts

MAKERS OF FLUORESCENT LAMPS, FIXTURES, ACCESSORIES; INCANDESCENT LAMPS; RADIO TUBES; CATHODE RAY TUBES; ELECTRONIC DEVICES

that determines his real merit. Therefore, it is futile to expect any prefabricated set of rules or code of conduct to indicate the correct method or action to follow in settling any of these incidents fairly and to the satisfaction of all parties concerned.

In consideration of all that has been said, it is very apparent that much more real benefit can be obtained by analyzing the qualities of practical successful supervisors than by reviewing the literary efforts of successful authors.

Necessary personal qualities for successful supervisor may be developed as a result of staff conferences.

INTEGRITY. Upon concluding his summary, the mill manager stressed the importance of high ethical standards among supervisors. There were many cases of otherwise excellent supervisors who failed to achieve success because they lacked fundamental ethical and moral qualifications. Any doubts or suspicions as to the moral soundness or high principles of the supervisor will seriously impair his value. Work-shop manners may be perfect, but questionable outside conduct reduces the respect and esteem of associates and subordinates. The manager suggested that the word *integrity* most suitably described all the ethical qualities required by the supervisor. Integrity can be briefly defined as fair and honest conduct, and prompt and strict fulfillment of all obligations and promises.

In the discussion that followed, it was the consensus that a supervisor's reputation for kind, considerate, fair treatment of everybody is the most valuable asset both to his employer and to himself. He should do everything possible to preserve or improve this reputation. One incident handled unwisely will often develop a feeling of distrust and suspicion which will do much to prevent harmonious department relations.

INTELLIGENCE. The chairman stated that from his own close observation of some outstanding supervisors in the actual performance of their duties, there appears to be one dominant quality common to all efficient supervisors. This quality is intelligence.

As the discussion proceeded there was a marked tendency in the group to confuse *intelligence* with *education*. Extended discussion clarified the meanings of these two words, and the group accepted the following abbreviated definitions: *Intelligence* is the trait or quality of understanding, the ability to appraise the value of facts in such a way as to guide action toward a desired goal. *Education* is the acquisition of information, skill, discipline, or other qualities through instruction and training which aid in the development of an individual physically, mentally, or morally.

One member of the group stated that a popular version described intelligence as the ability to learn, and education as the opportunity to learn. Psychologists have not yet agreed among themselves whether intelligence is an inherent characteristic of the individual or the sum of his natural abilities plus his acquired skill to deal with various types of situations.

Further discussion brought forth claims that the degree of a supervisor's intelligence and its effective application to the solution of personnel and operating problems cannot always be measured by the degree of education of the supervisor. There appears to be no consistent relationship between education and intelligence. Supervisors who admitted having a very limited education have shown results equal to those of other supervisors who boast college degrees. Their success cannot be attributed to the lack of education, but it does show that inherent intelligence can offset the handicaps of a limited education.

A poll taken of supervisors present showed that everyone realized that the greater his knowledge of his specific job and the broader his general knowledge, the greater his success as a supervisor. He should appreciate the value of new information and be constantly on the alert for newer and better ways of doing the old things. This was further proved by textile evening-school enrollments; technical-magazine subscriptions; correspondence-school and university-extension course work; and interested attendance at supervisors' forums, conferences, and group discussions.

ANALYTICAL ABILITY. The manager suggested that the *ability to analyze* should be considered as an important quality. He defined analysis as the separation of anything, whether an object of the senses or of the intellect, into its constituent parts or elements, and the appraisal of the value of each component part either separately or in its relation to the whole subject.

Discussion brought out that many successful supervisors use this analytical ability in a most effective manner without conscious knowledge of doing so. The ultimate results, in many cases, proved the correctness of their appraisal of the factors involved. It was stated that a systematic plan for conducting these analyses, along with an orderly recording of all the data and final developments involved, would greatly aid the supervisor in making similar analyses in the future.

SOUND JUDGMENT. The group selected *sound judgment* as the natural follow-up quality to analytical ability. This was defined as the ability to make a wise decision on the basis of facts determined by precise analysis, after careful consideration is given to the value of each factor involved.

It was shown that the wise supervisor realizes, early in his career, that many solutions of problems are only effective compromises. At times these compromises may approach the ideal solution of the problem, but at other times they may be but a series of voluntary or enforced concessions which only delay a satisfactory solution.

An important function of the supervisor is to decide how far he can go toward the perfect solution without prejudice for any factors in the problem or without jeopardizing any future prospects of a completely satisfactory solution. It is the making of his decision on how far he can prudently go toward such a solution that compels the supervisor to use all his natural and acquired faculties; viz., intelligence, experience from previous similar problems, true analysis of all factors, sound judgment in evaluating these factors, and the judicious application of his findings to the problem involved.

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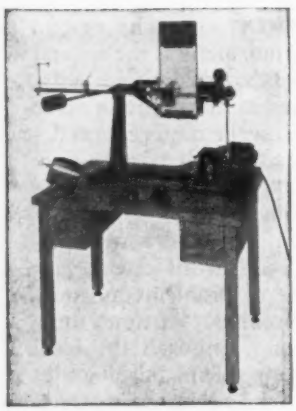

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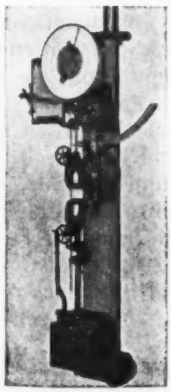

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Eliminate BOTTLENECKS From Your Spinning Room

HIGHLIGHTS: Investigate work complaints immediately. Specialized work results in greater efficiency. Training program should be planned.

By FREDERICK GUNTHER and MARCUS GROSS

ANALYSIS of a spinning-room bottleneck that seems to come from one cause will often reveal a number of small causes which, collectively, have developed into a serious condition. To isolate a spinning-room bottleneck, to explain why there is one, and to give the procedure necessary to overcome or prevent it requires deep and thoughtful study, plus ingenious planning.

Production bottlenecks are caused by anything that lowers operator or frame efficiency or that reduces or interrupts the smooth flow of materials. There are many factors which affect the efficiency of operatives and machines and contribute to bottlenecks; but for the purpose of discussion and to open up further avenues of thought on this timely and vital subject, some of the factors that should be studied are the following: the human-relations elements that affect the health, efficiency, and morale of the employee on and off the job; the effects of humidity and temperature on the employee and the product; the handling of work complaints; the training of new employees; the assignment of jobs; the maintenance of machines, including cleaning and oiling practices; and the materials-handling methods and equipment.

HUMAN RELATIONS. Too many of our new workers today have been found substandard in ability, although there is a latent ability in some that can be developed. Caution has to be exercised because this type of employee is likely to become a distinct safety hazard. We, who are supervisors, are certainly not psychiatrists, but we have to do our best with what we have. One of the most sublime virtues that a supervisor can possibly possess today is *patience!* With it you can, by cajolery or pleasantness, get the work out. The old method of bossing and "holier-than-thou" righteous anger is out—nobody professes to understand you. The constant appeal for production and quality will bear fruit if the supervisor realizes that not he but the workers must do the work.

In a recent survey conducted in a department with 16 spinners, the following revealing facts were uncovered: 5 spinners had sons, 1 spinner had a daughter, and another had a husband in the services; 1 spinner had a son killed in action, and another had a son seriously wounded.

It is not difficult to realize where these worker's hearts and thoughts are a good deal of their working time. It is just plain human nature, a knowledge of which is a valuable asset to a supervisor in softening the delicate heart-troubles of his spinners and in keeping them at work.

WORK COMPLAINTS. Whenever a complaint is registered by a spinner or a doffer concerning the work, check into it as soon as possible! Analyze and correct a poor spinning condition quickly. Your prompt action in doing this gives the spinner the feelings he is being looked after, unless he is a chronic complainer. What are some of the general complaints? They are travelers flying off, bobbins needing reaming, a general ends-down condition, etc.

For instance, take travelers flying off. Do you keep a charted record for changing, or do you have a definite changing period for all travelers? The traveler is so closely interrelated with the ring that the condition of the ring influences the traveler size. For the breaking-in period, a new ring will take a traveler from 3 to 5 numbers lighter than is required after this period. Check the spindle speed to determine if it is too fast for the size travelers being used; check the circle-ends of travelers, as the yarn may drop out of them at the start of a doffing interval; and check the ring size.

Spindles at all times must be absolutely centered. If a spindle is not centered, a variable tension is applied to the yarn, and a weak spot at the point of maximum tension may cause the end to break down. It is highly important that frame efficiency be maintained by constant check-ups.

HUMIDITY AND TEMPERATURE. Many spinners complain of the excessive heat that makes them too uncomfortable to perform a creditable day's work. On the other hand, most spinners agree that if the room is too cold the spinability and strength of the yarn are reduced. Most tests substantiate this. Cotton spins well when it is warm and when a reasonable amount of humidity is present to maintain strength in spinning, to reduce static, and to add a slight regain. Friction-heat, if uncontrolled, will use up some of the spray from the humidifiers before it does any good. Proper circulation will not only remove "dead-air spots," but also will add to the comfort of the spinner and doffer. High-humidity areas can cause slack belts which reduce speeds.

A check-up by air-conditioning en-

LEARNER'S TIMETABLE

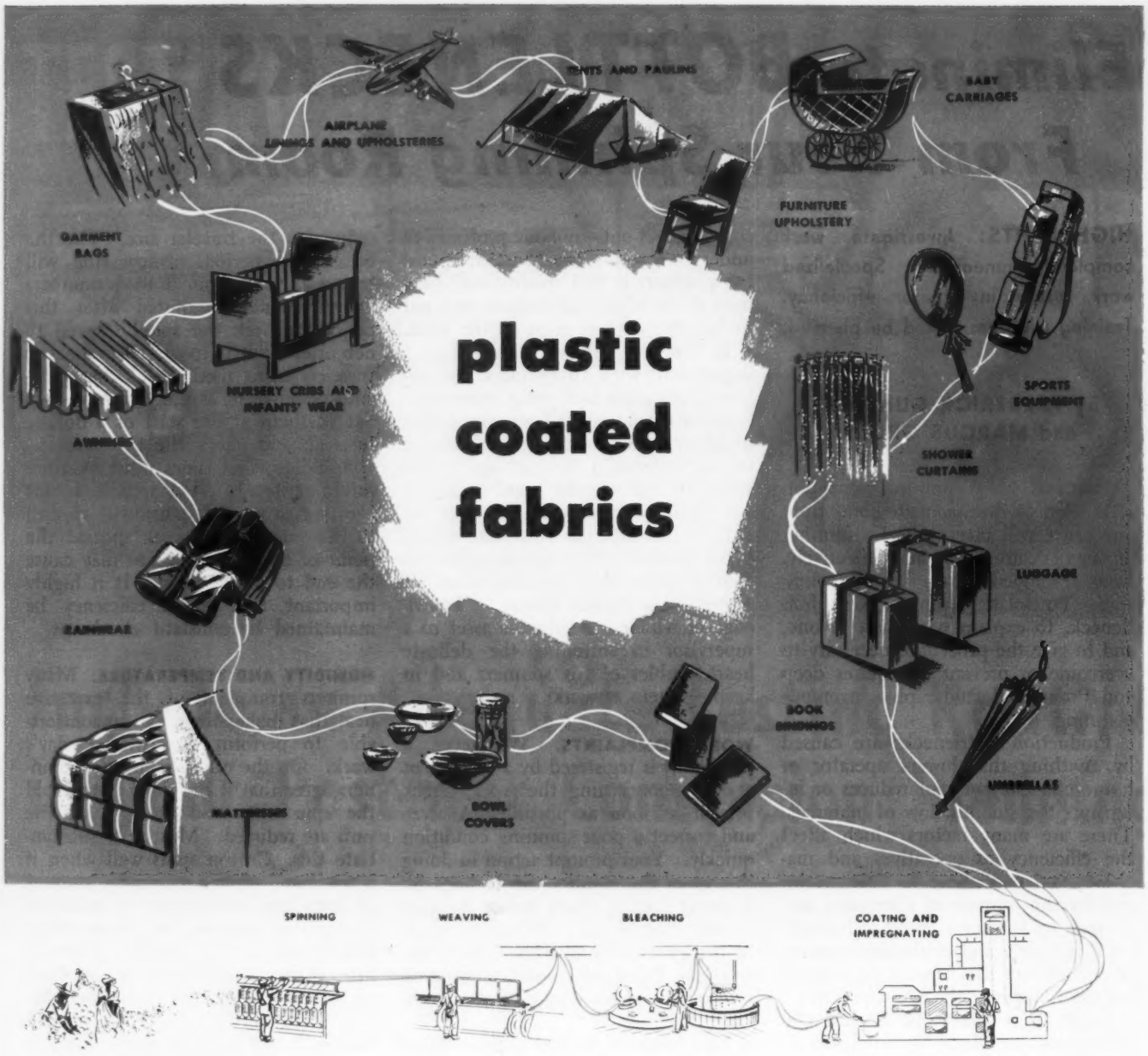
Name: Alice Jones

1st Week					2nd Week					3rd Week	4th Week	5th Week	6th Week	7th Week
M.	T.	W.	T.	F.	M.	T.	W.	T.	F.					
Observe, piece ends	Creel roving	Same as Mon. and Tues.	Pick front rolls	Pick middle & back rolls	Pick clearers	Clean creels	Review by instructor	1 side	2 sides	4 sides	6 sides	8 sides	10 sides	Review by supervisor

PRIMARY OPERATIONS ONLY

1. Observe and piece ends
2. Creel roving
3. Pick front rolls
4. Pick middle & back rolls
5. Pick clearers
6. Clean creels

Fig. 1. Instructors should prepare a timetable for the learner at the end of the second day.



These are but a few of the items for which our plastic coated fabrics and papers will be used after the war.

There are many other applications, of course, some of which are already familiar to our research staff—many more have not yet come to our attention.

Check *your* post war plans. Do plastic coated fabrics and papers show up anywhere in the picture?

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JOANNA TEXTILE MILLS, GOLDVILLE, SOUTH CAROLINA

gineers certainly cannot hurt the department. You may have a condition which if removed may not only produce better yarn but also prevent bottlenecks.

JOB SPECIALIZATION. A spinner who spins and cleans seldom accomplishes a thorough job—something is usually neglected because of the time element in cleaning and the uncertainty as to when ends are going to break. A spinner who is cleaning a frame usually likes to complete the job before doing anything else, and there may be an ends-down problem on other frames when the spinner finally gets around to them. Most spinners dislike cleaning, anyway.

One of the best arguments advanced why spinners should not clean is that the introduction of long draft in the spinning room has not reduced personnel; rather, in most cases, it has been found necessary to increase the help to meet the extended cleaning program.

It is easier to get cleaners than it it is spinners; and, of course, the spinner takes on more sides. Most mills will eventually go on an assembly-line pattern in which the spinners will spin only and the cleaners will clean only. The era of specialization in spinning is long overdue.

TRAINING SPINNERS. There are many reasons why it is difficult to train a new spinner and to hold the older, more experienced ones. Chief among the reasons is wages. We cannot overlook the fact that other industries do offer higher wages than the textile industry. Generally, textile employees share in the prevailing attitude that work is easier to get today than it ever was, so why study or work too hard?

Training of the potential spinner should begin with the first day she is assigned to the task of observing and learning to piece ends. If there is no full-time instructor, the learner should be assigned to an experienced spinner who is qualified to teach. This instructor should get an extra allowance as an added incentive to teach new spinners.

The first day will make or break a learner! The instructor and the supervisor must look at the running spindle through the eyes of the learner to appreciate what the learner is up against. For the first lesson, the instructor should break one running end and show the learner how to stop the bobbin and take it off the spindle. The learner does this a dozen times or more, to get the "feel." The follow-through on this step is one of observation of end-piecing to allow the details of the operation to register in the learner's mind. Observation is highly important.

On the second day, the learner is shown how to creel roving. This time the roving ends are broken and the instructor shows the learner how to feed the ends into the roving trumpet; and the learner, in turn, demonstrates the operation until the instructor is satisfied. At the end of the second day, the learner should be able to creel roving and piece ends.

The supervisor should then make out the learner's timetable.

All operations and steps are important. Any overseer of spinning can make up a timetable similar to Fig. 1, with a different set of primary operations to suit his particular needs.

JOB ASSIGNMENT. Job assignment must be made with due consideration for the physical and mental make-up of the worker so far as is possible. Some jobs are easier than others; this is especially true in the spinning department where no two yarns may run alike. Assigning a set to a spinner who likes a particular job without arousing enviousness on the part of the other spinners calls for ingenuity and tact. It is not difficult to get a spinner to run extra sides if the work she is running is the kind she likes. It may be next to impossible to get her to spin extra sides on a yarn that probably runs well, if she doesn't like it. If a transfer is necessary, be sure that the worker is not jolted into it. Explain why the change is necessary.

Spinners', doffers', and cleaners' tasks must be watched and at the first sign of trouble, put the jobs under time-study, get the facts, and avoid a bottleneck.

MAINTENANCE. Lack of proper maintenance handicaps the smooth functioning of the department. Spinning sections require more supervision today than ever before. The schedule, Fig. 2, takes cognizance of the myriad duties and details of the section-hand's responsibilities.

Burned-out bearings, another bugaboo in the spinning and twisting rooms, will be a thing of the past if gravity-feed oil bottles are used instead

(*Continued on page 232*)

SPINNING ROOM
SECTION-HAND MAINTENANCE SCHEDULE

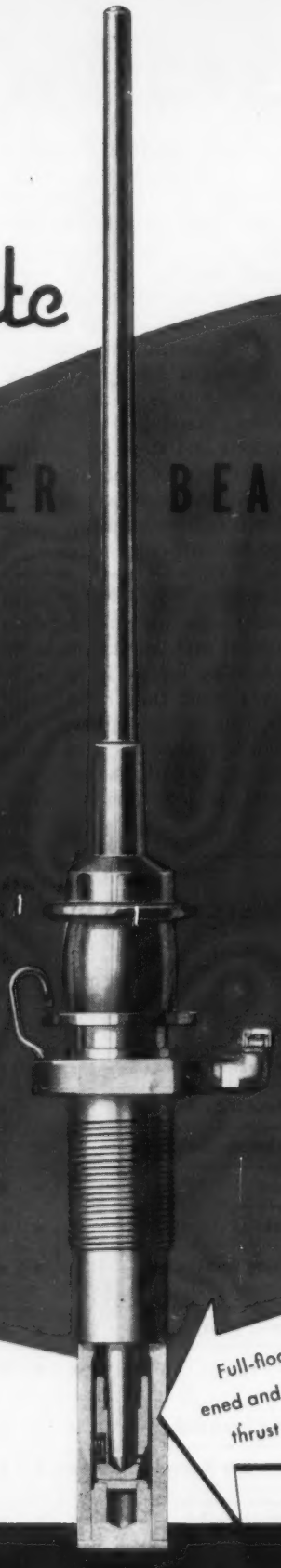
Operations	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.	Remarks
Oil heads	x			x			Watch for plugged oil holes.
Oil pulley bearings	x	x	x	x	x	x	Watch for plugged oil holes.
Oil head, foot & cy. bearings	x		x		x		Watch for plugged oil holes.
Check & take-up slack belts	x	x		x	x	x	Replace old, worn belts.
Clean motors		x	x		x		Use brush or air-hose.
Check tapes	x	x	x	x	x	x	Cut old ragged tapes.
Check running spdls.	x	x	x	x	x	x	Check for bad bobbins. Check spindle clutch.
Check traveler cups	x	x	x	x	x	x	Note sizes.
Check bad ends	x	x	x	x	x	x	Check roving, rolls, rings, travelers, spindles, aprons.
Check humidifier heads	x	x	x	x	x	x	If off, notify supervisor.
Inspect pick gear & pawl	x	x	x	x	x	x	Remove waste from beneath pawl.
Inspect bobbin builds	x	x	x	x	x	x	Note tapers, dia. of filling bobbins, gage bobbins.
Check lights	x	x	x	x	x	x	Replace bulbs, notify electrician.
Check loose pulleys	x	x	x	x	x	x	Check balance.
Check running conditions	x	x	x	x	x	x	Check performance.
Check bunches	x	x	x	x	x	x	Check filling constantly.

Note: Do you need tapes, brushes, hooks, passboards, mops, lights, soap, chalk, travelers? Order Daily.

Fig. 2. Check lists can be prepared to suit local conditions.

Marquette

ROLLER BEARING SPINDLES



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Changes Needed to Weave PLASTIC MONOFILAMENTS

HIGHLIGHTS: Requirements include heavy warp tension, stronger loom parts, and rigid reed. Heat at loom needed for filling. Resinous accumulation forms on reeds and shuttles.

By ALBERT FRANTZ

WHAT'S NEW concerning monofilaments . . . how many looms per weaver . . . is there a satisfactory shuttle tension . . . must the filling be aged or conditioned . . . what speed looms . . . hand change or automatic . . . must a new loom be designed. . . .

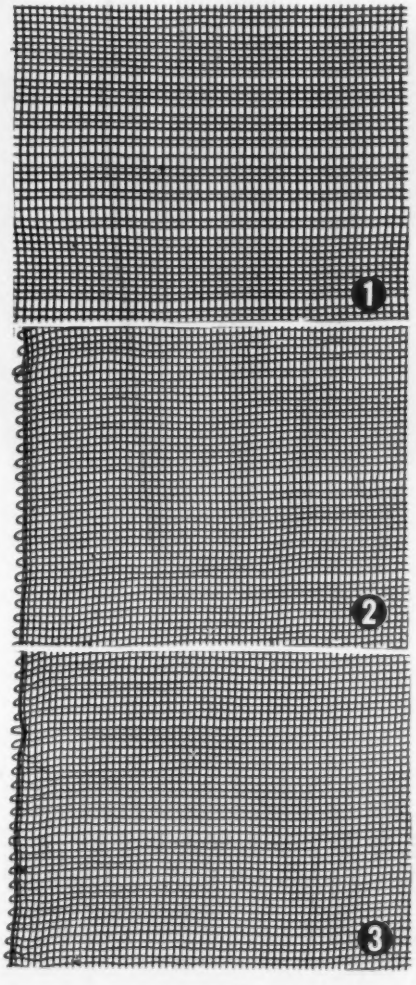
The foregoing queries seem to be the gist of the problems confronting weave sheds working on plastic weaves for the first time—and by the time satisfactory production should be coming through, some new problem develops throwing all efficiency calculations out of gear.

Fortunately, the road has been pioneered and much has been learned. The monofilament yarns are still something new to more than 99% of our weaving mills; but, as more plants take on commitments, more will be learned, and the "bugs" eliminated. One thing that has been learned, which perhaps is the most important of all, is that it is a current fallacy to think of weaving monofilaments in terms of production alone.

First of all, from viewpoint of the weave-plant, the loom must be readied up to take the plastic warp. Considerable warp tension must be used, or loose marks, starting marks, or cracks will predominate throughout the weave, as shown in Fig. 1.

However, too much warp tension creates other difficulties; stripping of take-up gears, narrowing of cloth, and loom bang-offs. Different yarn gages require different tensions. On coarser numbers, tensioning must be greater. Suitable let-off devices of the automatic type are still to be designed for weaves of the plastic or "wire" type shown in the illustration. Present automatic let-offs are impractical due to the fact that take-up resulting from the low-pick count. For weighing of warps, ½-in. braided rope seems to be the answer.

For large warps, 3,000-yd. long, lever weights should be placed on each side and 12-in. diameter beam heads should be used. For common 7-lb. loom weights, place a goose-neck in the back for dead weight, and place about eight to ten 7-lb. weights thereon. On the lever end, a shorter goose-neck taking about six 7-lb. weights is preferred. If more weight is required, use two such weights on each lever end, and add or lessen 7-lb. weights until the desired tension is obtained. Anticipate your need for weights. Lack of them can be costly.



Figs. 1, 2, and 3. Insufficient warp tension is frequently the cause of filling cracks. Fig. 1 is typical of cracks across the width of the cloth; Fig. 2, cracks several inches from the selvage that run to the center of the cloth; Fig. 3, shift marks near the edge, similar in appearance to temple marks.

Weighting is very important. Too little tension shows up in the woven cloth as various defects. Fig. 2, shows cracks that appear several inches away from the edges and run into center of the weave. Fig. 3 shows shift marks near the edge that are somewhat similar to temple marks. These defects can often be eliminated by adding one or more 7-lb. weights.

Warps must let off smoothly. A jerky movement discerned at the beam head will almost invariably result in various forms of cracks showing in the cloth. The coarser the weave, the more pronounced these defects will be.

LOOM PREPARATION. Previous to placing in a monofilament weave where rayons or other yarns have woven out, a thorough check-up of the empty loom must be undertaken.

If the take-up drum is covered with leather, rubber, cork, or a combination of these, the covering must be removed and replaced with a fairly heavy sandpaper covering. On heavier yarn gages of .012 and up, the coarse particles of garnet need not be rubbed off, as no cutting will take place during take-up if no vibration of flooring, loom, or rocking action of warp is present. A good sandpaper covering is necessary to prevent cloth slippage around the drum. When the covering wears smooth, it should be replaced. Another precaution: glue on the covering. Loose sandpaper merely tacked on will eventually be torn loose and doubled over between the rollers under the cloth. When this happens, the protuberance when passing through pressure rollers will form an impression mark and weaken the spots of cloth pressed between it and the rollers.

Due to the heavy tension required on warps composed of .012-gage yarns and upwards, a terrific strain is ever present on take-up gears and other parts connected with the take-up, especially where such parts require movement. The writer's experience on these yarns has forced the conviction that either new take-up motions must be devised, if after the war competition becomes keen on these yarns, or heavier parts must be used.

For instance, positive take-up gears

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on many looms are of cast iron and are not sufficiently strong enough to stand up under heavy warp tensioning. Even on steel gears, teeth are often bent out of shape and worn thin. A need here for a wider face is manifest. Wider steel gears should be used in place of cast iron even for the small intermediate pinion and rachet-wheel pinion.

Many looms have an oscillating rocker-shaft movement to give the required pick-wheel pawl-arm sweep for the desired pick count. Therefore, the rocker shaft must be positive, and any part failing to function properly has a direct bearing on the take-up. If set screws fail to dig into the shaft on either laysword feet or rocker irons, slippage takes place.

On some looms, it may be necessary to drill a hole through the laysword foot on the take-up side and through the rocker shaft. Then a pin can be used, in addition to the set screws, to hold the foot to the shaft. Good hollow-point set screws are necessary for the rocker iron connected to the pull pawl. A logical improvement here on redesigned parts would be the addition of a keyed-on rocker iron and/or laysword foot. Keying on these parts would entail a little more trouble in removing a broken part, but it would assure exact movement on the parts with the rocker shaft. And this is indispensable for steady production.

Another point for improvement is directly connected with the bottom take-up cloth roller. Looms with heavy bottom girts have insufficient space between the bottom sweep of the sand-drum and top surface of the girt. Thus, the maximum cut length is often 80 yd. If this space could be enlarged, cuts of over 100 yd. might be possible and considerable savings would be effected in removing the cut, picking, measuring, shipping, etc. On some looms this is no problem, but on many ravon looms it is. On the pipe-girt type, the bottom center bearing can be removed to permit a larger roll. It is possible to run cuts of over 100 yd. if the take-up friction is tightened to form a more compact roll of cloth.

TIGHT REED BED. Looms with swinging reels should have the movement eliminated. Some reed beds are equipped with bolts and springs. Springs can be removed and a section of pipe or small wood blocks fitted onto the bolt to form a solid connection. Also, on many reed-swing looms, small steel plates are secured to the layswords or lay beam and fastened to the reed bed to prevent movement. Reed swing will cause many cracks and

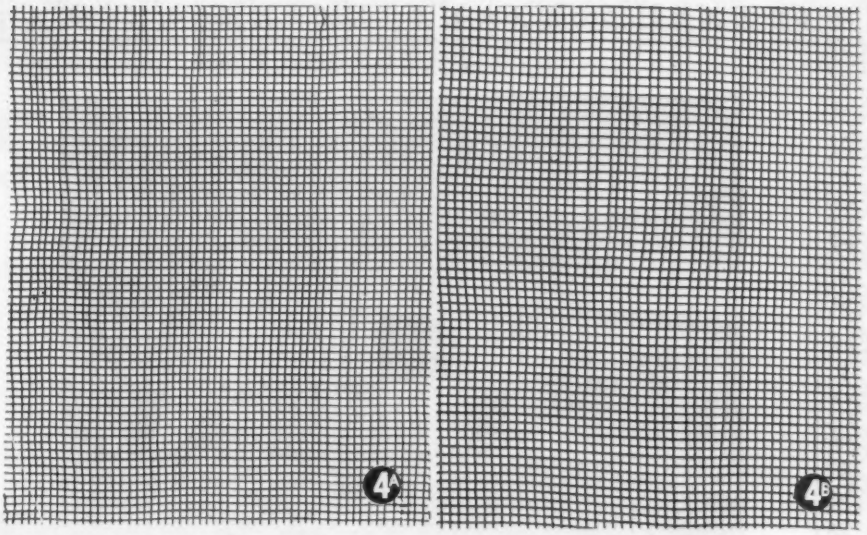


Fig. 4. A. Reed wires that are too thin (too much air space) cause reed marks. B. This particular kind of reed mark takes its form from crowded heddles or heddles sticking together, plus a poor reed as in A.

overbeating, so it is of primary importance to make the desired adjustments before the new monofilament warp is mounted on the loom.

Inspect all reed-stand swivels and remove any plan. See that crank arms are tight without binding. Tighten crank-shaft bearings without binding. All parts should be firm and all bolts tightened to prevent loosening after a few days' run.

Generally, a higher reed is desired for monofilament weaves, as additional height allows more yarn freedom. Endeavor to get the shedding line equalized; then when beat-up occurs or crossing of yarn takes place, the reed is centered. Reed wires, however, must be extra thick; otherwise, during weaving many reed marks will form as shown in Fig. 4.

A good chrome reed is recommended. On ordinary steel reeds, wires often become rusty or coated with the resin from the yarn. An accumulation can usually be dissolved with solvents or scrubbed free, if it causes trouble.

HARNESS. Many monofilament weaves are from four to eight shafts. (The weaves shown in the illustrations are 2-shaft or 4-shaft.) Experience has shown that on these weaves rust-resisting steel heddles seem to work out well. Place two or three pull-down springs on each side of each shaft; then, if overweighting takes place as the warp runs down, the shed still will be pulled down onto the race plate. Also, when extra pull-down springs are used, it is preferable to use two jacks for each shaft; thus, there would be two wire mounts and four cable or dobby cords for each shaft. Another trick learned is to draw the entry skip, and tie or screw the first and second shafts together and the third and fourth shafts together. A loom can run for years on this set-up without having shaft marks in the cloth due to a wire, jack, hook, cord, or shaft breaking.

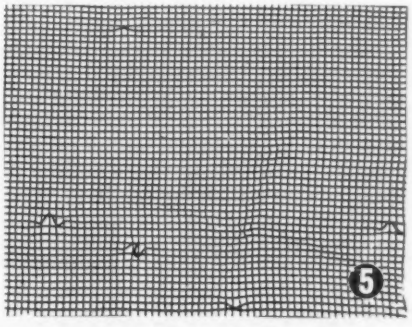


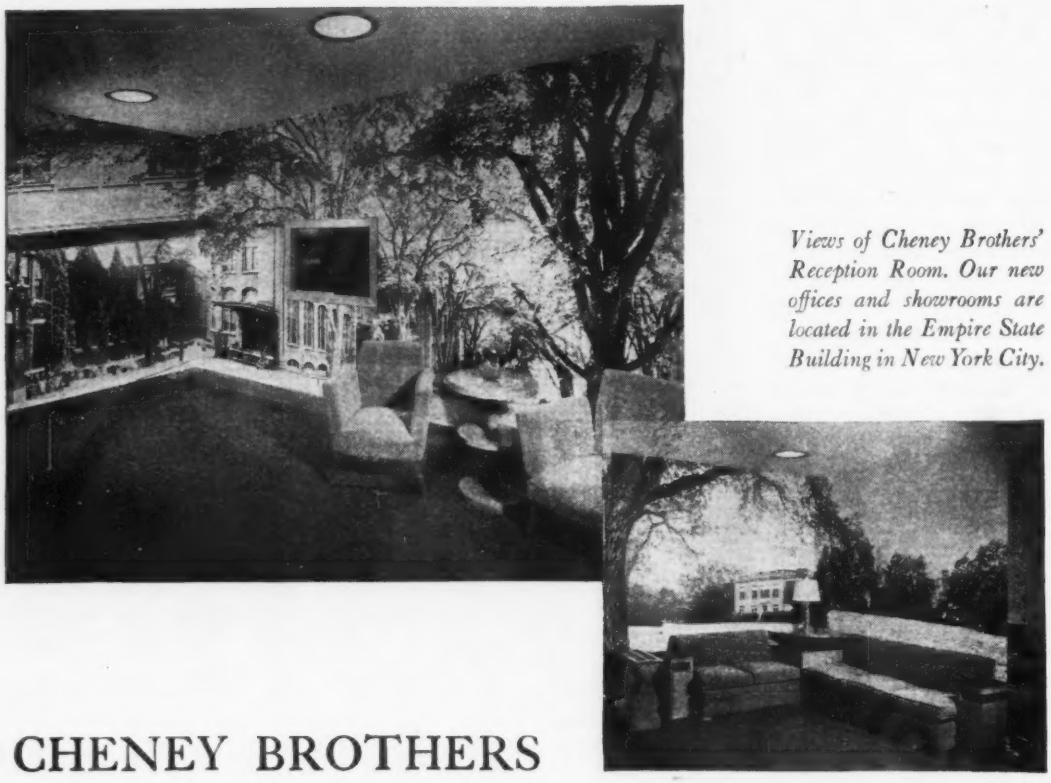
Fig. 5. Filling kinks are more often caused by shuttle bounce than by shuttle tension.

After many trials with various shuttles and tensions, the dogwood shuttle with wool-type tension springs and plates was found ideal.

It is really not necessary to have a tight tension on filling yarns—the opposite should be the rule. In Fig. 5 is a swatch showing rough loops (sometimes called loopy cloth, rough spots, rough cloth, kinks, etc.). These loops will come more often from improper shuttle checking than improper shuttle tension. In actual weaving, a tight tension will give more trouble than loose.

To avoid too much filling tension, therefore, use the wool plate tension previously mentioned. Fur the shuttle lightly, or one side could be furred fairly heavily and the opposite side left free from fur. The yarn passes between the two plates and out through the top shuttle eye on hand-change looms. Brass springs are preferred over steel springs, as the latter have a

(Continued on page 216)



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As LONG as the war lasts, Cheney fabrics for civilian use will be very scarce.

But even today we are looking toward the future—designing newer, finer fabrics for peacetime use.

Many of these products of tomorrow result from the military needs of today. To produce the highly specialized fabrics of war, we have done a vast amount of scientific research. We have contributed the tireless efforts of our laboratories and technicians. And all this experience will be reflected in the new fabrics now being perfected.

Cheney Brothers, like their customers, look forward to the time when there will be plenty of Cheney fabrics for every purpose.

Meanwhile, we all hope for an early Victory. And let's remember that we speed Victory with every War Bond we buy today.

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The Automobile Designer LOOKS AT TEXTILES

HIGHLIGHTS: Vinylidene chloride fabrics suitable for hard-usage seating needs. Combination weaves of vinyls, wool, rayons, and others for enclosed cars. Colorful laminates for sidewalls and head linings, while Fiberglas laminates used for structural purposes.

By MORRIS SANDERS*
Plastics Consultant

MUCH HAS BEEN WRITTEN about the battle of synthetics, and of impending battles in which fabrics woven of any or all fibers by classical methods will be ranged on one side of the barricades, while on the other will be fabrics that are entirely synthetic. More recently we have read more agreeable reports of mass weddings of materials of different source and performance. According to the editors of TEXTILE WORLD, the potential implications of the whole thing are "staggering to the imagination, indefinable, and unpredictable."

FABRICS FOR AUTOMOBILE INDUSTRY. A few years before the war, W. F. Bird, Collins & Akiman Corp., laid down the following requirements for an ideal automotive upholstery fabric:

1. Long life and ability to take hard wear.
2. Maximum style and beauty for luxurious and smart trim effects.
3. Ease of handling.
4. Elasticity and softness for comfort.
5. Ventilation for dissipation of body and interior heat.
6. Maximum resistance to spotting and ravages of accumulated road dust and dirt.

Today we may enlarge on some requirements, relating them to varying sales objectives—to sedans, taxis, convertibles, trucks, buses, or even to roadside planes and helicopters.

LONG LIFE AND ABILITY TO TAKE HARD WEAR. Vinylidene chloride forms a filament that is exceedingly tough, fatigue and abrasion resistant, and long lived.

Other synthetics that wear remarkably well are the vinyl polymers. Whether used in sheet form or as impregnants and coatings for yarn and fabric, they, too, will bring outstanding qualities of wear and scuff resistance, flexibility, and toughness to bear upon the upholstery problem.

Vinylidene chloride fabric is still relatively harsh to the touch; and the sheet vinyls and synthetic rubbers do not "breathe". In their present state, they would appear to serve hard-usage seating needs in station wagons, convertibles, trucks, and buses better than the comfort-demanding requirements of the enclosed family car.

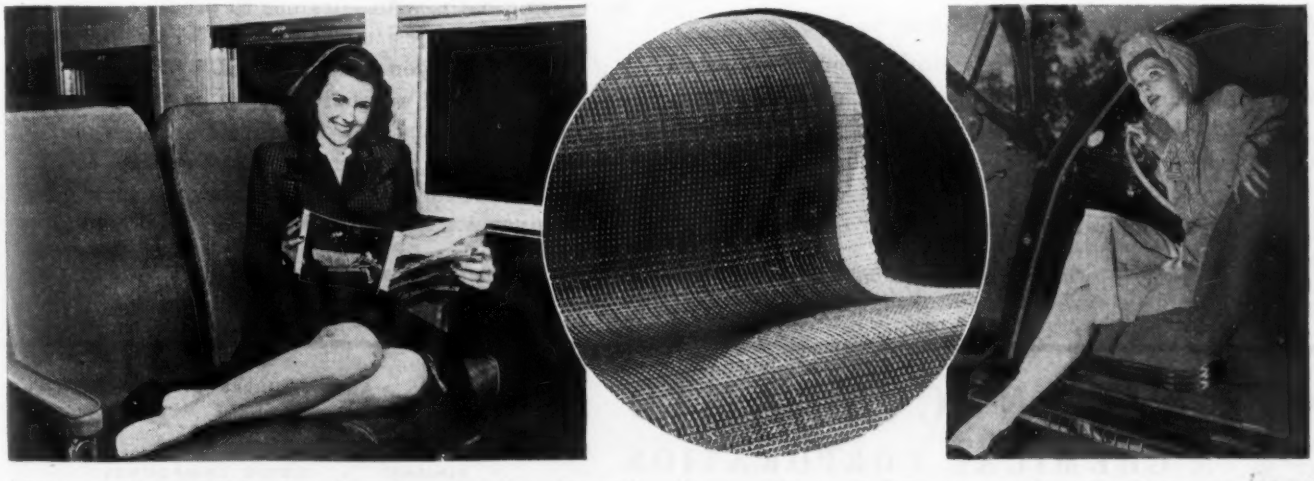
New rayon weaves, and experimental combinations of new and old fibers indicate that there are numerous other new and sensible solutions to the long-life and long-wear problem.

MAXIMUM STYLE AND BEAUTY FOR LUXURIOUS EFFECTS. With the exception of synthetic rubbers, the other new synthetics and semi-synthetics are color-receptive in the extreme. Because they are soil-resistant and easily kept clean, we are no longer forced by necessity to choose colors that blend in with grease and grime. Should sales-circumstances dictate the soft glow of pastels or the flash of pure color, we can now specify them.

Besides having access to an unlimited spectrum, it appears as though we were in for a welcome deluge of unusual lusters and appealing textural effects. Apart from rather esoteric possibilities such as vinyl and acetate-protected fabrics woven of aluminum-coated, or novelty yarn, many familiar materials will re-appear in unfamiliar, new weaves.

EASE OF HANDLING. No new material is harder to handle than the pre-

* Abstract of paper presented before American Society of Automotive Engineers and American Association of Textile Technologists.



Wearing qualities of Velon have been demonstrated in day-coach service on the Baltimore & Ohio Railroad. Fabrics of this colorful vinylidene chloride fiber, as well as those of Tenite (center) are excellent for upholstering convertibles and station wagons. Combination fabrics will find many uses in enclosed cars. Vinylidene chloride, wool, rayons, and other materials combined will produce unusual fabrics which are "tailor-made" for the auto industry. Oil and gasoline-resistant carpeting for cars will soon appear.

Use DECERESOL* OT

THE MOST POWERFUL WETTING AGENT AVAILABLE

CUTS TIME AND COSTS IN MORE THAN THIRTY DIFFERENT WETTING, EMULSIFYING AND DISPERSING OPERATIONS

Making one month do the work of two is a feat that has been accomplished over and over again by many textile mills through the use of DECERESOL OT. Here is a partial list of applications:

Wetting out cotton piece goods prior to "grey souring."

Wetting out raw cotton in raw stock dyeing machines.

As a penetrant in all types of dyeing including yarn and knitted and woven goods.

As a dispersing agent in the pigment method of vat dyeing.

For rapid wetting out in sanforizing.

For wetting out grey goods prior to kier boiling to insure more uniform boil off and to prevent resist marks in subsequent dyeing.

As a dispersing agent in dyestuff mixtures to insure better solubility and to improve color value.

As a dispersing agent for finishing oils to obtain greater softening value.

In desizing baths with enzymes to produce more rapid and efficient desizing.

For boiling off rayons and acetates.

In the woolen and worsted industry as an aid in fulling and carbonizing.

For dyeing Nylon and Vinyon yarns, hosiery, etc.

For the production of highly absorbent products such as mop yarns, paper mill felts, towels and similar fabrics.

Our representative will gladly give you more detailed information on the DECERESOL *Wetting Agents and help you select the type or types best suited to your operations.*

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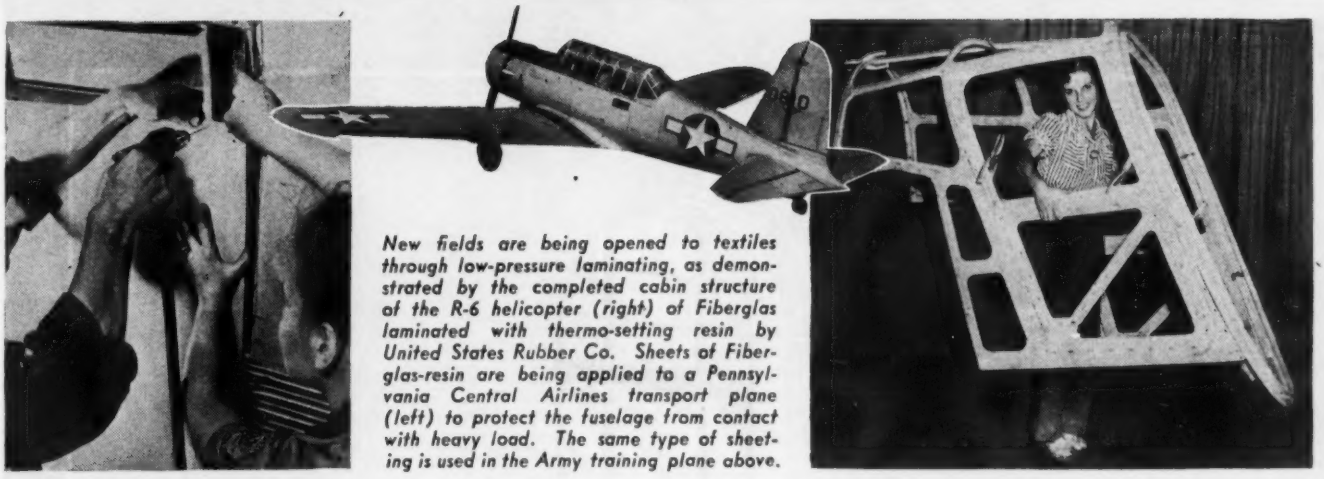

New fields are being opened to textiles through low-pressure laminating, as demonstrated by the completed cabin structure of the R-6 helicopter (right) of Fiberglas laminated with thermo-setting resin by United States Rubber Co. Sheets of Fiberglas-resin are being applied to a Pennsylvania Central Airlines transport plane (left) to protect the fuselage from contact with heavy load. The same type of sheeting is used in the Army training plane above.

war ones. On the contrary, because completely scientific control of fiber, filament, or sheet is assured, and because many of the new materials can be solvent-fused or heat-fused, we can fairly predict that they will, in general, be easier to handle than their predecessors.

ELASTICITY AND SOFTNESS FOR COMFORT. Many of the new synthetics are elastic by nature. In any case, the weave design is quite as important as the fiber itself where elasticity and comfort are the goals.

Vinylidene chloride was mentioned as having a harsh feel. Now that the filament is being extruded at smaller diameters (.004 in. instead of .030 and .012 in.), a more comfortable weave results. And a soft-feeling vinylidene chloride fiber is said to be more than a possibility of the future. Interesting combination weaves have been made; they marry the important individual qualities of vinylidene chloride, wool, rayon, and other materials.

New weaves of acetate rayon appear to have everything that Mr. Bird specified for enclosed car use—including that hard-to-define sympathetic quality that we call "luxury of hand". Other worthy developments employ chemically-treated viscose rayons. In short, you may expect much from improved rayons.

DISSIPATION OF BODY AND INTERIOR HEAT. Because of their physical structures, synthetic filaments and fibers are intrinsically cooler than standard natural fibers.

One popular prewar product was a short-pile velvet whose pile was anchored in a flexible open rubber base; with our wartime developments of synthetic rubbers and vinyls, we can now make similar fabrics that are easily as practical and comfortable, and that are oil and gasoline-resistant as well. With design modification, they would lend themselves well to automotive carpeting use.

One recent development offers unusual promise: a vinyl latex that is susceptible of water dispersion and protective coagulation about indivdual fibers. We now have good reason to expect water-repellent fabrics that are permeable to air, and because of the nature of the vinyl sheath, resistant to flame and abrasion as well. Such fabrics should have good hand and appearance and a tear strength superior to that of coated and impregnated fabrics.

Another promising use of vinyls that permits free ventilation is via the Plexon method whereby individual yarns are impregnated and coated.

Other thermoplastic resins, such as cellulose acetate and cellulose acetate butyrate are used in this method as are a variety of base yarns, including cotton, rayon, Fiberglas and linen. Plexon yarns have been called the most nearly tailor-made of all the fabric yarns, and they will undoubtedly be woven to serve the automotive industry.

MAXIMUM RESISTANCE TO SPOTTING, ROAD DUST, AND DIRT. The larger part of our new synthetics (whether fiber, filament, or coating) are grease and dirt resistant and are cleaned with relative ease. They need not be crinkly, dirt-and-heat traps, as are older "found" fibers. Even the found fibers and yarns can now be impregnated or coated by several new processes.

The sidewall and head lining offer problems. Where sanitation and hygiene are factors (and such linings have always been unpleasant dust catchers in enclosed cars) we again have the vinyls and other highly resistant synthetics. Via coatings and impregnants, rayon and cotton prints, plain or fancy, can now stand unusually rough abuse without losing a bit of their dainty design quality.

Besides such synthetic-treated soft goods, durable, hard-surfaced, structural laminates will be available in exactly the same designs and patterns —a brand-new development. In taxis and buses we can now use tough but attractive vinyls in embossed sheet, or as protection for fabric or hard laminates of decorative fabric base, or even open-weave vinylidene chloride fabric backed with sound-absorbent Fiberglas in felted form.

Where sound absorption is a major consideration, all-Fiberglas fabrics or Fiberglas in combination with rayon, cotton, wool, or other fibers is to be considered. Fiberglas will prove desirable for special uses despite its relatively high cost. It has given remarkable performance in tires, gaskets, belting, and battery retainer mats.

TOP MATERIALS FOR CONVERTIBLES. With new high-tenacity rayons, nylon, and Fiberglas, tops that are tough but extremely light are possibilities. Thanks to wartime vinyl developments, we can coat them translucently with synthetics that resist flex, age, oil, and weather as rubber never did. Convertible tops as translucent as a woman's raincoat are a possibility.

LAMINATES. Rigid, structural, fabric-based, compound-curved laminates are a true war development and one that applies to specialized auto-body problems—to tops, fenders, panels, and other parts.

Using methods developed in producing self-sealing gasoline tanks, the automobile industry can now choose unusually decorative dress or drapery prints, use them in single or multiple laminate form, combine them with Fiberglas, duck, or any other laminate, and employ them for exterior purposes as well as interior ones. They can be post-formed for angled, corrugated, and simple curved surfacings or even compound-curved ones, if the fabric itself is designed to permit such deformation.

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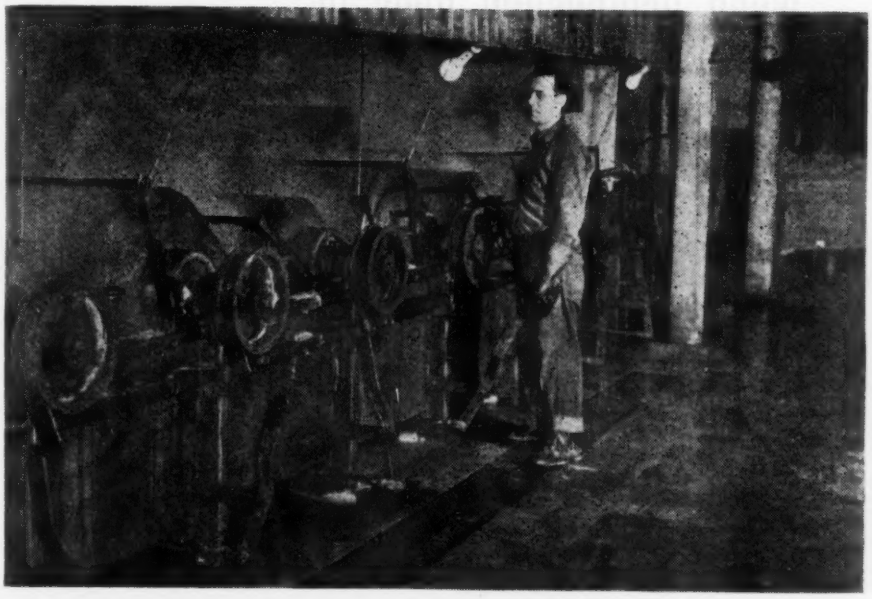
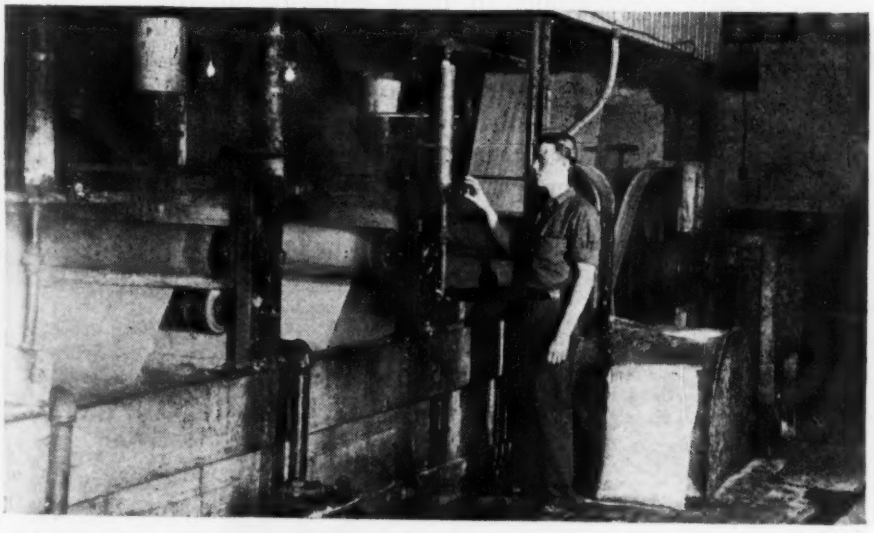
BICARBONATE PROCESS
Used for Caustic Removal

HIGHLIGHTS: Costs in line with acid neutralizing. Safety to both cloth and worker results. Corrosion of equipment eliminated.

By **FRED A. HUNTRESS,** *Pepperell Manufacturing Co.*
and **A. L. DUBEAU,** *The Mathieson Alkali Works, Inc.*



Riggs & Lombard progressive jig for continuous caustic scouring.



After caustic scouring, goods are washed in four boxes of hot water, followed by one box containing a sodium-bicarbonate solution at 180°F. This is followed by another wash in a second soaper, four boxes of hot water, and one box of cold water. Courtesy Pepperell Mfg. Co.

THE BICARBONATE PROCESS for removing residual caustic from goods after boiling out was first described in TEXTILE WORLD in May, 1943.* After more than two years of operation at the Pepperell Mfg. Co. plant, an evaluation of the process from the point of view of a user has been made, based on an average of 400,000 yd. per week.

The application of this process, as originally suggested by Huntress of Pepperell and developed jointly by Mathieson and Pepperell, follows caustic scouring in the Riggs & Lombard apparatus and consists of a wash in the first soaper and in four boxes of hot water. This is followed by a wash in one box with a 3.0% bicarbonate solution at 180° F., and another wash consisting of a second soaper, four boxes of hot water, and one box of cold water.

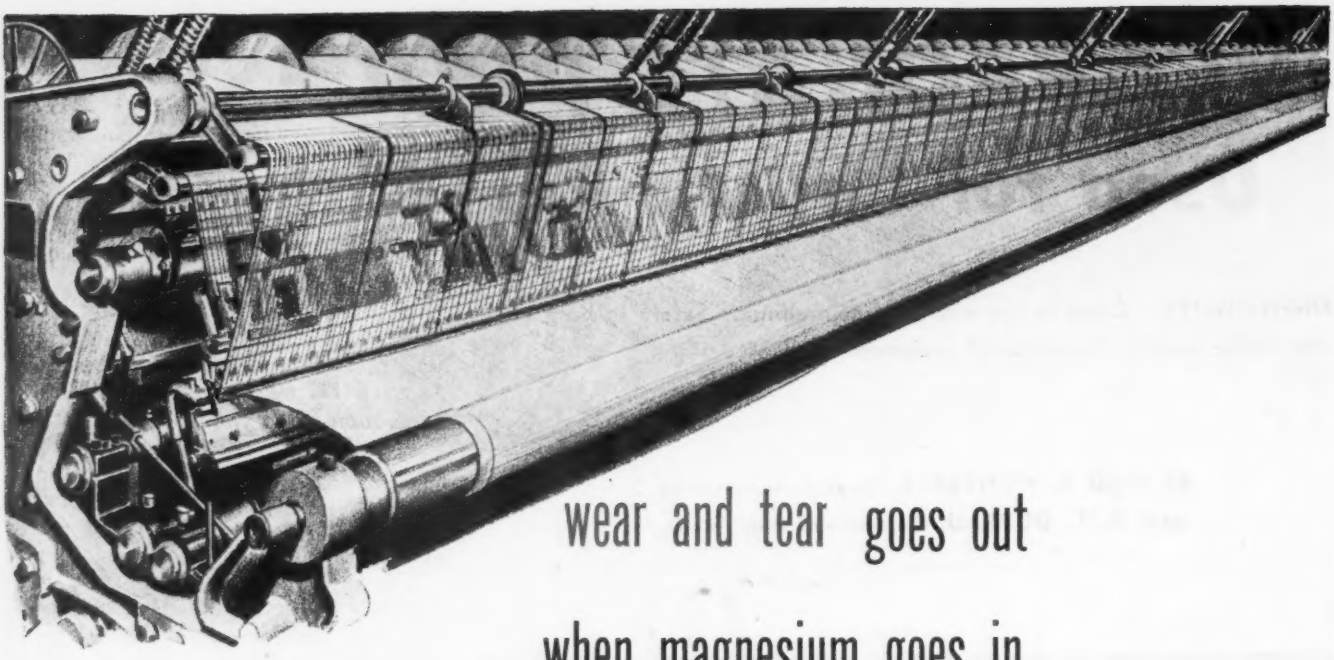
Chemical and labor costs have proved to be about the same for caustic removal by the bicarbonate process as by the acid process. But, the reduction in maintenance of equipment has proved of great importance. Another consideration is the fact that the bicarbonate process is entirely safe and makes it unnecessary to employ safety devices for the protection of workers or to employ careful control measures to prevent injury to the goods or to the equipment.

The improvement in cloth quality is likewise an advantage. The use of hot washes instead of cold results in cleaner and softer cloth.

Although other alkalies might also be used, bicarbonate has certain advantages, in addition to its safety. Not only is bicarbonate itself easily soluble, but its reaction product with caustic soda, sodium carbonate, is also readily washed out of the goods. Hence, with goods treated with bicarbonate, the danger of damage by residual alkali is reduced to a minimum. Since no acid is employed, all possibility of degradation due to acid is eliminated.

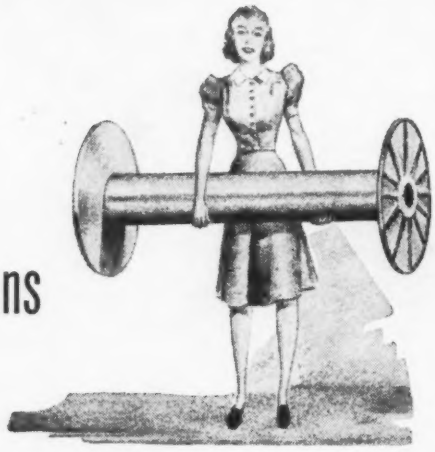
But perhaps the most important factor of all at this time is that breakdowns of equipment, due to corrosion by acid, with resultant production stoppage, have been eliminated. Vital war production has thereby been maintained.

*Dubeau and Vincent, Mathieson Alkali Works, "After Rolling-Out Use Bicarbonate"



wear and tear goes out when magnesium goes in

—and the metal of motion speeds textile operations



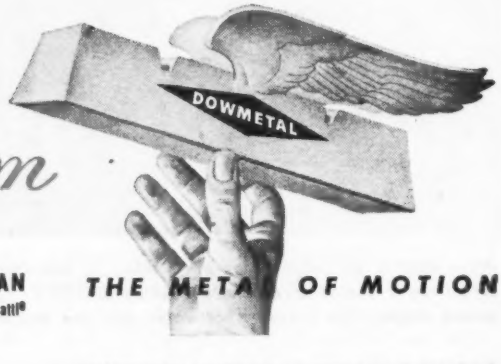
Magnesium is "made to order" for the moving parts of textile machinery. Its light weight—a full third less than that of aluminum—means low inertia . . . and that means smooth, high-speed operation with less vibration.

Better still, the strength and stability of alloyed magnesium parts cut wear and tear and eliminate the high maintenance costs caused by frequent failure of some non-metallic parts.

The textile industry is thoroughly familiar with the importance of these factors in machine parts —especially in those requiring intermittent or reciprocating movements at high speeds. Magnesium is the answer: weaving, knitting, spinning, twisting and winding operations alike benefit from the Metal of Motion.

If you want detailed technical information on the advantages of magnesium in textile operations, get in touch with Dow, pioneer producer and fabricator of this lightest structural metal.

DOWMETAL *magnesium*



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THE METAL OF MOTION

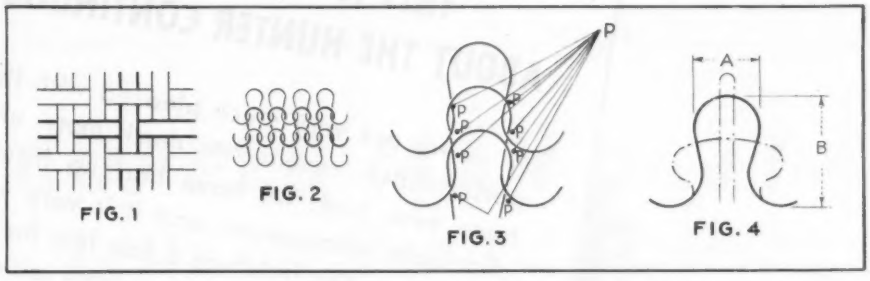
Tricot Stimulates Interest in KNITTING PROCESSES

HIGHLIGHTS: Filling-knitting fundamentals reviewed. Flat-bed machines permit fashioning at sacrifice of production. Ultimate in circular design would achieve warp knitting. Multiple feeds increase angle of courses to wales.

By OTTO ENGELHARD
Product and Development Engineer, Textile Machinery, Sherman and Associates, New York

New interest in knitted fabrics by weavers and other newcomers to knitting has been evidenced by the large number of inquiries received by TEXTILE WORLD following publication of the articles on Tricot in September. These inquiries show need for information on the basic principles of knitting; and to meet this need, TEXTILE WORLD herewith begins publication of a brief review of those principles. The first section discusses filling knitting. It will be followed by a similar treatment of warp knitting and combinations of warp and filling knitting.

The timeliness of this series is indicated by the recent announcement of a fast British Tricot machine which Mr. Engelhard describes elsewhere in this issue.



Figs. 1 and 2. Fundamental difference between woven and filling-knit fabrics. Fig. 3. Each loop is supported in 8 places. Fig. 4. Loops can stretch more in width than height.

THERE IS NO DOUBT in the minds of expert textile men that the trend in the textile industry is decisively in favor of knitted materials. This is emphasized by the entrance into the field of a number of important machine factories as builders of knitting machinery.

Better and cheaper production; high speed; controlled elasticity from rubber-like to rigid; practically unlimited style possibilities; production of tubular, flat, or fashioned fabrics; positive guidance of each thread in the operating of the machine; and almost no preparatory operation are a few of the advantages of knitted material.

The loop fabric differs very much from any other textile. A woven fabric consists of two systems of mainly straight threads at right angles to each other and interconnected as shown in its simplest form in Fig. 1. The two main groups of knitted materials are the warp-knit and the filling-knit fabrics. In filling-knit fabrics, of course, the yarn is fed across the length of the fabric; in warp-knit, it is fed lengthwise of the fabric. Fig. 2 indicates a plain, filling-knit fabric.

Comparison of Fig. 2 with Fig. 1, reveal the following characteristic differences: The filling-knit fabric has only one system of threads running crosswise like the cross threads of the woven fabric. They are not straight, but form loops.

SPRINGY FABRIC. If we assume that the fabric is made from steel wire, we realize, right away, that such a type of knit material must be very elastic. Each loop is, in fact, a spring and can be stretched or compressed, after which it returns to its original form. That return movement is facilitated by the way each individual loop is supported at eight points. (See Fig. 3.)

Something further can be seen in Fig. 4. A filling-knit fabric stretches more in the crosswise direction than in the lengthwise direction. If you try to stretch it lengthwise, each loop has only half of *A* to give; crosswise, however, it has half of *B*, which is much greater.

The spring needle shown in Fig. 5

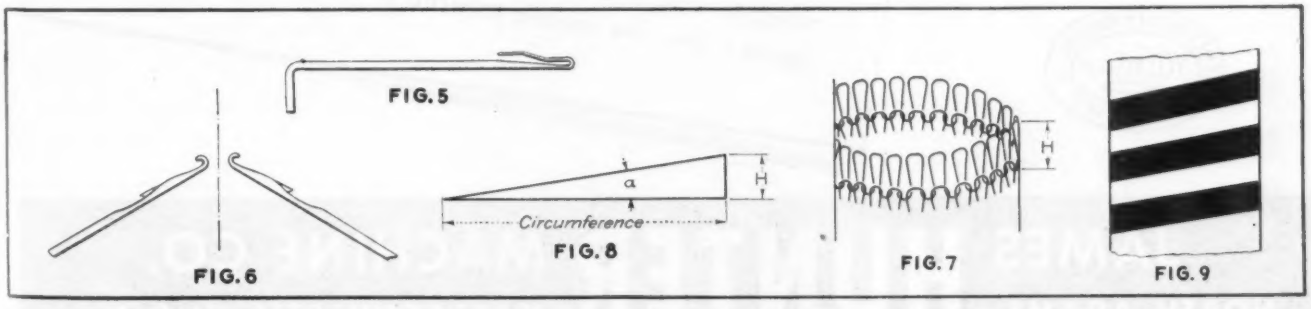
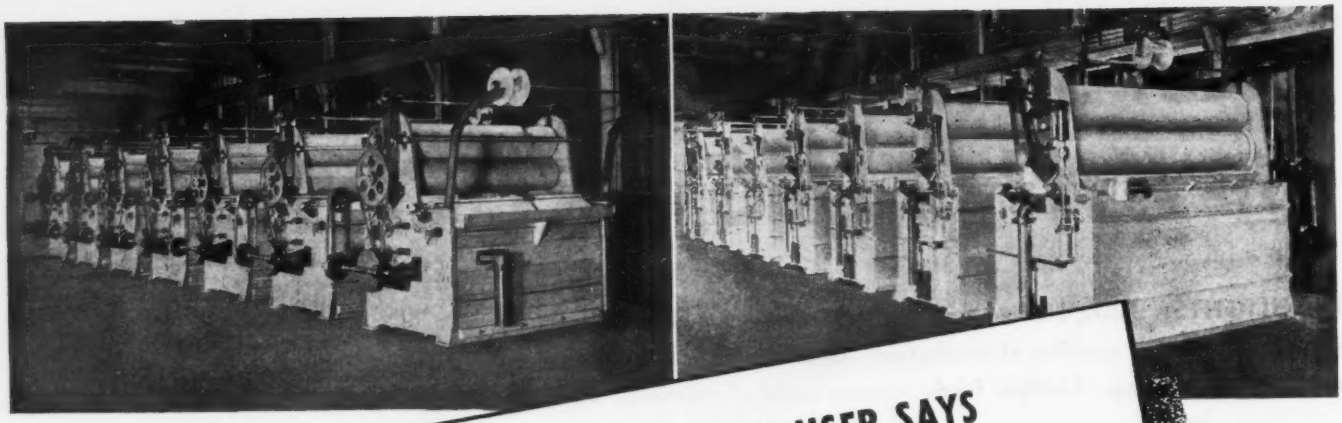


Fig. 5 and 6. Most common needle types. Fig. 6 shows angle such as may be found in 2-bed filling-knitting machines. Fig. 7 and 8. Minimum angle of courses in a circular fabric is achieved by using one feed only. Fig. 9. Multiple feeds increase angle of courses in circular fabric.



THIS IS WHAT ONE USER SAYS ABOUT THE HUNTER CONTINUOUS WASHER:

". . . we are very much pleased with the results of its performance; results are much more uniform than we have ever had; we have had no trouble with it mechanically whatsoever, and it is very well constructed; have given this machine a fair test for the past four or five months, and do not have any criticism so far."

The new Hunter Continuous Washer will scour cloth clean, up to and in excess of 35 yards per minute. It affords continuous production between fulling and drying. Upon leaving the Washer, goods are picked up by a Scutcher and opened, then extracted through heavy Pneumatic Squeeze Rolls, and go directly to the Dryer.

It saves space. It has done the work of ten Dolly Washers in about half the floor space, and requires less than one-third the horse power. Four men can run the Washer, Scutcher, Squeeze Rolls and Dryer.

The Washer is ruggedly built with heavy cast iron frames, machined, and with anti-friction bearings throughout. Rubber covered squeeze rolls are equipped with pneumatic or hydraulic tension control. Whip roll, stop motion, etc., are stainless steel. Machine can be started or stopped from several different stages on the Washer. Machine is very versatile and will handle all weights and classes of goods. For actual operating figures, you are invited to write to Hunter today.

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FOUNDED 1847

and the latch needle in Fig. 6 are the two principal needle designs used in knitting machines, though lately a few other types of needles have been developed. Both types are extensively used in filling-knitting machines. The spring needle is used more often for fine fabrics, the latch needle for coarse fabrics. Filling-knitting machines are again subdivided into two groups; flat and circular machines.

Flat filling-knitting machines are used for all fashioned knitted materials, because only on flat filling-knitting machines is it practicable to narrow and widen a fabric.

The most popular flat knitting machine is the full-fashioned hosiery machine. It produces an ideal stocking. The material stretches crosswise more than lengthwise and, after fashioning, produces a stocking which fits the leg like a second skin. Being a fine-gage machine, it is designed with spring needles.

This machine is principal member of the large group of one-bed flat knitting machines. The other large group is the two-bed flat knitting machine. It consists (as schematically drawn in Fig. 6) of two flat, parallel needle beds which are at an angle. It is the most versatile and interesting of all flat filling-knitting machines. It almost always uses latch needles and, on account of that, is not manufactured in a very fine gage.

It is possible to knit on it fabrics that are flat or tubular, straight or fashioned, plain or fancy. It is very often used for manufacturing dresses, pull-overs, sweaters, hosiery, girdles, etc., but not so often for manufacturing piece goods. That field is covered by the circular filling-knitting machines using spring or latch needles. Circular knitting machines are very productive, work 100% automatically, and do not need highly skilled labor or preparatory machines. In order to increase their production, the number of feeders can be increased. This has the following bad effect on the knitted fabric: If we use only one feeder on a circular machine, the course of loops forms a helical spiral like a thread on a screw. The pitch of it would be the height of one loop. (See Fig. 8.) Fig. 9 shows the development. The helix angle a is actually very small when only one feeder is used.

DIAGONAL COURSES. The more feeders we use, the larger the helix angle. The course of the loops become diagonal and not square to the length of the fabric (as indicated in Fig. 10, which represents a fabric made on a circular machine with many feeders). Fabrics of this sort cause a lot of trouble in the cutting-up trade. If we increase the number of feeders to such an amount that we have a feeder for each needle, we automatically arrive at a circular warp-knitting machine, which shows conclusively that the ultimate aim of circular filling knitting is circular warp knitting. This is only mentioned here; circular warp knitting will be presented in a subsequent article.

The circular filling-knitting machine is used for all types of fabrics, including men's and women's underwear and outerwear. It can work any type of fiber, has a relatively wide range of style possibilities, and can be built in any gage from fine to coarse. It has one great disadvantage; its fabrics are not runproof.

Another large group of circular filling-knit machines has two needle beds (such as rib-knitting machines). They are used very widely for men's stockings as well as underwear and outerwear fabrics. They are mostly coarser than the one needle bed machine, more complicated to operate, but are more versatile. Many attempts have been made to make filling-knit fabrics runproof, but no type has become popular.

COPPER MAN Used for Tests on Heated Clothing

HIGHLIGHTS: Laboratory device approximates human temperature system. Only military use at present, but it will aid postwar development of consumer goods.

A "COPPER MAN" designed to duplicate exactly the human temperature system and modeled according to the average proportions of Army Air Force flyers is being used to test electrically-heated flying suits, gloves, shoes, and casualty blankets at low temperatures and at pre-determined wind velocities—tests which formerly inflicted suffering and danger on human volunteers and produced results which varied with the health of the volunteer.

"Copper Man" and control panel for tests of heated clothing

General Electric Co. built the copper man and assembled the control panel with which it is associated. The panel provides indication of the electrical input to maintain the proper temperatures in various parts of the mannikin and these temperatures are recorded periodically by the action of suitably placed thermocouples. It has been found that the normal heat loss for a human being in a state of comfort is about 75 watts. Consequently, if the electrically heated suit under test fails to maintain the temperatures of the man at normal (which, by the way, is not the familiar 98.6° F. of the blood) with a 75 watt input, it will not be warm enough to be comfortable to the wearer under the conditions of temperature and wind at which the test is being carried out. The copper of the dummy figure has been finished in a semi-lustrous black which has about the same heat-radiation factor as the skin.

Several of these test devices have already been built for testing of military clothing, and General Electric will use the system after the war for further research on automatic blankets which will be reintroduced to the consumer market.

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UNLESS your plant requires no re-conversion and has been newly built or completely re-lighted during the last three years according to today's higher standards, you will soon be considering lighting recommendations and the specification of the best possible lighting equipment to meet today's and tomorrow's needs.

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When you make the Benjamin trademark your guide, you are assured of obtaining such equipment. This trademark is your assurance of lighting units that comply *with all recognized illumination, electrical and mechanical standards and applicable RLM specifications.* It is your assurance of:

—reflectors scientifically designed to insure the proper control and direction of light.

—highest reflection factors and light output to insure obtaining all the light you pay for.

—proper lamp shielding to minimize glare.

—an extra safety factor of durability which assures long fixture life and minimum maintenance and replacement costs; durability which has earned Benjamin units the reputation for being "built like battleships".

—equipment that is guaranteed against defects in material and workmanship.

Without cost or obligation on your part, let us place your name and the names of your associates on our list of those to receive the various Benjamin bulletins and other data to be made available during the next few months. These will be helpful to you in making a study of your lighting and in planning needed improvements. Just write Benjamin Electric Mfg. Co., Dept. E E, Des Plaines, Illinois and ask for Benjamin Re-Lighting Service Data.

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Production Hints to Aid ARMY MELTON Manufacture

HIGHLIGHTS: Keep roving a few grains lighter. Dress warps about two inches wider than width of reed. An eight-ounce soap has been used successfully in fulling.

By FRED SYKES

RECENT PROCUREMENTS on 20-oz. melton have fallen short of requirements. Accordingly, TEXTILE WORLD is presenting details covering construction and finishing of this fabric. Essential fabric requirements are covered in U. S. Army Specification 8s-39c.

FABRIC CONSTRUCTION. This fabric calls for 46 ends and 44 picks, finished count; this high count makes it a very tight weaving job. A suggested layout is as follows: 2688 ends, including list, 8½ x 4 reed, 79 in. overall, and 40 picks. Warp yarn is spun at 2⅞ run and filling at 3⅛ run. This layout is ideal for 92-in. looms. On the 82-in. loom the reed width would have to be slightly narrower. Lay out this cloth as wide as possible to relieve the tension in the warp. This permits it to weave well as mills encounter most of their trouble in the weaving.

In the manufacturing of the 20-oz. O. D., it is well to select good, clean wool to avoid carbonizing, either in the raw stock or piece. If a mill has to carbonize, it is better to carbonize in the piece, as rawstock carbonizing tends to weaken the wool slightly.

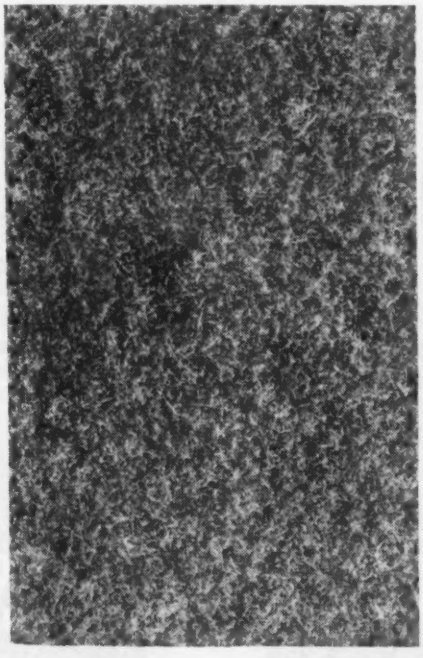
As the fabric is usually composed of 50% wool that has already been dyed O. D., the shade at first may be difficult to get. One mill dyed about 40% of wool to shade to blend with the natural stock and used about 10% white stock, as the reworked wool had white in the natural stock that is used. By dyeing enough wool to make a blend for 100,000 lb. of stock, the shade could be kept even. Take smaller lots of 3,000 to 4,000 lb. per batch and running the warp and filling in separate batches. With this method the batch runs through quicker without much chance to dry out, or during humid weather, to heat.

In carding the stock, it is advisable to have the cards well ground and sharp to insure good carding, and the set should be not less than a 32 gage. The carder should strip his cards oftener on this type of stock. If the cards become filled, the yarn is likely to be weakened. More bad yarn is made through lack of sufficient stripping than through any other cause, especially under present conditions with the shortage of help.

When spinning this blend, it is advisable to have the carder make the roving a few grains lighter as this roving will not draw so well as when made from virgin wool.

In spooling there should be no difficulty in a mill that is equipped to run directly from large packages and that uses the straight-line method of dressing. Every set should be inspected to see if the right build is used at the base of the bobbin in order not to have yarn breakage and tight threads.

The warps should be dressed about two inches wider than the width of the reed. Weaving this 20-oz. cloth is the most difficult of any of the woolen fabrics made for the Army, as is proven in the following calculations used to obtain the number of threads that can be placed in a space one-inch wide. The warp yarns are spun at 2⅞ run, or 4,600 yd. per lb. The square root of 4,600 is 67.75, which, less 16%, the constant for woolen yarn, gives 56.91 threads that can lie side by side without interlacing. The weave is a 4-harness twill. Therefore, multiply the number of threads in the weave, 4 by 56.91=227.64. The number of threads in the weave, plus 2 interlacing, =6, divided into 227.64 =37.8, which is the utmost number of threads possible.



The 20-oz. melton may consist of all-domestic wool, all-foreign, or a 50-50 combination.

FINISHING. The size of the filling yarn, 3⅛ run, can be calculated in the same way. Therefore, an overseer of weaving has to use his ingenuity to obtain efficient production and good weaving work. The overseer must watch his listing as this fabric, being heavily fulled, can cause the finisher a great deal of trouble. Bad listings cause the cloth to roll and to full unevently with tight or slack listings. A good-looking listing adds greatly to the appearance of the cloth.

Burling, sewing, and tacking are next. The last mentioned operation is left to the discretion of the overseer. Some finishers will not finish a heavily fulled fabric without tacking. The degree of fulling depends on different factors. Mainly, what is required is a firm, well-felted piece of cloth that is up to weight and to picks and will pass the government inspection.

An eight-ounce soaping has been very successful in bringing up the width and length evenly in fulling. After fulling, the cloth is given a good scouring. After scouring, some mills carbonize in the piece, using sulphuric acid, while others use aluminum chloride. The choice depends on the individual mill setup. Both methods have been used very successfully. Neutralize the pieces and dry. After drying, it is a good idea to through-light the pieces and straighten the listing before shearing. If the pieces have been handled successfully, no trouble should be found with turned or rolled listing. Shear both back and face, dew and press. If a dewing machine is used, it is well to let the piece stand a few hours or over night. If a hydrolizer is attached to the press, much time is saved and the moisture is impregnated into the cloth more thoroughly, giving a good, firm press. Inspect and then roll for shipment.

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Cross section shows efficiency and compactness of Proctor Continuous Blending System. This may be tailored to needs of individual plant.

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POLARIZED LIGHT
Preferred for Maturity Tests

HIGHLIGHTS: Comparison with NaOH method shows cotton maturity can be found more quickly. Tests prove two methods give same results. Method available to many textile laboratories without additional cost.

By MARY ANNA GRIMES
Textile & Clothing Specialist
Texas Agricultural Experiment Station
College Station, Texas

COTTON FIBER reaches its maximum diameter very early in its development, and at the end of 15 to 20 days it has attained its maximum length. At this stage the protoplasm is enclosed only by a thin primary wall. During the next period of growth, the wall of the fiber is thickened by the laying down of secondary layers which are deposited from the outside inward. Under normal environment, a compact layer is deposited during the day and a porous layer during the night[1]. This deposition continues for a period of at least 25 days at which time the fiber may be said to be mature, as it has reached its maximum growth. Early cessation of the deposition of these layers results in a fiber with a thin wall and a relatively large lumen. Such a fiber is commonly called immature. A fiber with a relatively thick wall and narrow lumen is called mature. The stage at which the thickening of the cell wall ceases determines the maturity of the fiber.

All of those engaged in growing the fiber and in manufacturing cotton fabrics are concerned with the maturity of the fiber. A cotton with an exceedingly high percentage of immature fibers has low luster; receives a low grade; makes a weak, neppy yarn; gives high manufacturing waste; and produces uneven dyeing—even to light and dark streaks in the fabric. For these reasons, any critical analysis of a cotton must be considered incomplete unless maturity is included.

Recognition of the importance of the maturity of the fibers led, many years ago, to the use of methods to determine maturity. These methods have included measuring the wall thickness at intervals along the length of the fiber, the determination of the ratio of average actual to average potential area of cross section, physical appearance of the fiber (particularly convolutions) after mercerization, and the ratio of ribbon width to ribbon thickness. Since it is necessary to study many individual fibers from a well-mixed sample in order to arrive at a reasonably accurate measure of the percentage of immature fibers, the task is at best quite time consuming. These facts have encouraged the search for more rapid, accurate methods.

METHODS USED. Two methods are now commonly employed. The older, and probably more universally used method, is that in which the fibers are swollen with an 18% solution of sodium hydroxide and then measured at high magnification. The method of sampling from length arrays is described elsewhere[2]. The fibers are placed parallel on a slide, covered with a cover glass, and flooded with the 18% NaOH; then the slide is placed on the stage of a microscope with a magnification of approximately 400X. A Filar micrometer and an Euscope are the usual accessories.

The caustic causes the fibers to swell and makes the cell wall and the lumen more easily discerned than when in the

Table 1. Maturity of Cotton Fibers as Determined by Two Methods.

Slide No.	Total No. of Fibers	No. Mature by NaOH	No. Mature by Pol. Lt.
1	134	109	112
2	254	226	226
3	258	197	193
4	255	240	236
5	251	233	232
6	255	229	233
7	258	168	167
8	275	179	178
9	256	200	199
10	200	131	132
11	254	192	196
12	255	221	224
13	258	171	167
14	275	190	178
15	256	205	199
16	246	170	165
17	200	131	135
18	254	191	196
19	255	224	224
20	396	258	258
21	327	246	247
22	367	281	282
23	420	269	268
24	339	278	277
25	376	256	256
Total	6874	5195	5180
% Mature		75.57	75.36
% Immature		24.43	24.64

Table 2. Cotton Fibers as Classed for Maturity by Polarized Light, Treated with NaOH, and Measured.

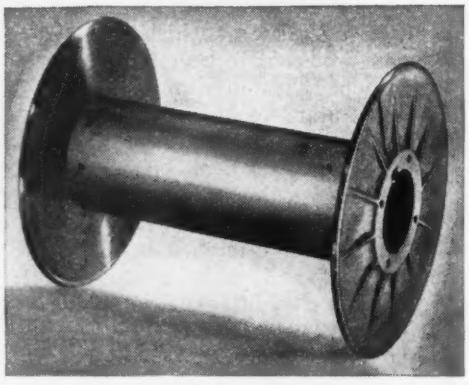
Yellow and Yellow-Green Fibers				Blue and Violet Fibers			
Fiber Diameter (Microns)	Wall (Microns)	Lumen (Microns)	By NaOH	Fiber Diameter (Microns)	Wall (Microns)	Lumen (Microns)	By NaOH
26.5	9.8	4.3	Mature	30.8	2.6	25.7	Immature
26.5	12.0	3.0	"	33.8	3.4	27.8	"
27.8	11.1	6.8	"	22.7	2.6	18.4	"
33.8	9.8	7.3	"	27.0	2.6	21.8	"
30.0	10.7	8.1	"	31.2	3.4	25.2	"
35.5	17.1	5.1	"	27.0	2.6	21.8	"
29.1	12.0	4.3	"	32.5	3.8	25.7	"
43.2	21.0	7.7	"	28.7	2.1	24.0	"
34.7	14.1	6.4	"	28.2	2.6	23.1	"
36.8	12.8	9.0	"	27.4	3.4	21.0	"
26.1	12.0	6.8	"	27.4	4.3	21.8	"
24.0	8.6	3.8	"	34.2	3.4	25.7	"
27.8	16.3	2.6	"	36.0	2.5	30.8	"
26.1	11.1	4.7	"	26.1	2.1	21.0	"
30.8	9.4	6.4	"	30.4	3.4	23.5	"
24.0	10.3	4.3	"	27.4	2.6	27.4	"
				27.4	2.6	18.8	"
				27.0	3.0	21.4	"
				33.4	3.4	22.2	"
Av. 30.17	12.38	5.66		29.40	2.97	23.53	

Blue Ribbon—Or Just Beef?

The world's best-bred calf can't win blue ribbons by itself. It's when you combine good breeding with expert handling that you get stockshow winners that are more than just fair beef.

It's much the same sort of situation in making spools, beams or bobbins for textile manufacturers. Take Hubbard magnesium alloy warp beams for example. They're made of Dowmetal, a carefully developed alloy with superior physical and metallurgical properties. When Hubbard's 32 years of designing and manufacturing experience go to work on this light, strong material, the result is perfectly balanced, smooth running warp beams that are leaders in their field.

It will pay you to find out right now about how Hubbard products can help by improving your manufacturing quality and decreasing costs. Write today for details on Hubbard warp beams, stainless steel spools and bobbins.



Removable, interchangeable flanges offer these advantages: (1) heads or barrels may be salvaged if necessary; (2) conversion costs to larger size flanges are held to a minimum; (3) length of beams may be altered at little cost to meet production requirements.

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untreated state. All fibers with a ratio of lumen width to cell wall greater than 2:1 are classed as immature and all others as mature or normal[2]. Thus, fibers with a wall thickness equal to one-half the width of the lumen are classed as thick-walled or mature, and those with a wall thickness less than one-half the lumen are classed as thin-walled or immature. Border line cases are decided by measuring the width of the wall and of the lumen with the micrometer. The percentage of immature or of mature fibers for the sample may then be calculated by using the number of fibers for each length group or the weight-percentage frequency from the length array.

The second method utilizes the interference colors displayed by cotton fibers when viewed by polarized light. The fibers are selected and the slides prepared as for the sodium hydroxide method just described, but no sodium hydroxide is applied. If desired, another slide may be substituted for the cover glass and fastened with scotch tape. Essential equipment includes a polarizing microscope (preferably of the petrographical type) with a magnification of 100X. The microscope should be equipped with a rotating stage to which a mechanical stage is attached and a red-of-the-first-order selenite compensator to "step up" the colors for more positive identification[3].

The microscope is adjusted so that the Nicols are crossed, the cross hairs of the ocular are fixed at 45° with the planes of vibration of the polarizer and analyzer, and the selenite plate is placed in position. With the fibers in a parallel position with relation to the arrow on the selenite plate, each fiber is classed in turn according to its color. As classed by Schwarz, Hotte, Pattee, and Stevens (see references 3, 4, 5 and 6), those fibers that are violet or indigo are very immature, blue fibers are immature, green or yellow-green are mature, and yellow fibers are highly mature. When rotated 90°, violet fibers become orange, blue fibers change to yellow, yellow-green fibers do not change, and yellow fibers become yellow-green. Immature fibers show practically complete parallel extinction, in contrast to mature fibers which show no extinction when rotated through 360 degrees. These color changes, which occur on rotation, serve as a check for doubtful fibers which are found.

The question has been raised as to whether variations in the micellar orientation might interfere with the accuracy of the method using polarized light. In this study no effort has been made to answer this question. The study was undertaken to determine to what extent the results by the two methods differed when the same fibers were used for both methods.

Table 3. Immaturity of 87 Cottons by Polarized Light and NaOH Methods.

NaOH %	Pol. Lt. %	NaOH %	Pol. Lt. %
36	29	31	31
34	34	43	44
34	31	29	29
36	34	42	43
34	33	37	37
35	38	35	36
33	35	42	44
35	40	38	38
39	42	38	44
40	37	40	44
36	37	38	41
35	34	34	36
36	37	42	43
35	31	36	40
32	30	36	40
35	35	40	38
36	37	65	63
38	36	34	37
36	36	38	40
36	37	41	44
37	37	35	34
38	38	36	37
40	39	35	31
35	35	35	35
35	33	36	37
22	23	38	36
35	36	36	36
19	18	36	37
29	32	37	37
34	34	38	38
50	50	40	39
40	41	30	32
37	36	36	29
39	36	34	34
39	40	36	34
37	38	34	33
38	38	35	38
39	40	33	35
40	42	35	40
38	37	39	42
42	44	40	37
45	45	36	37
45	46	34	31
31	31		
Average		36.76	37.05
Standard Error		0.56	0.60
Standard Error of Estimate		2.11	

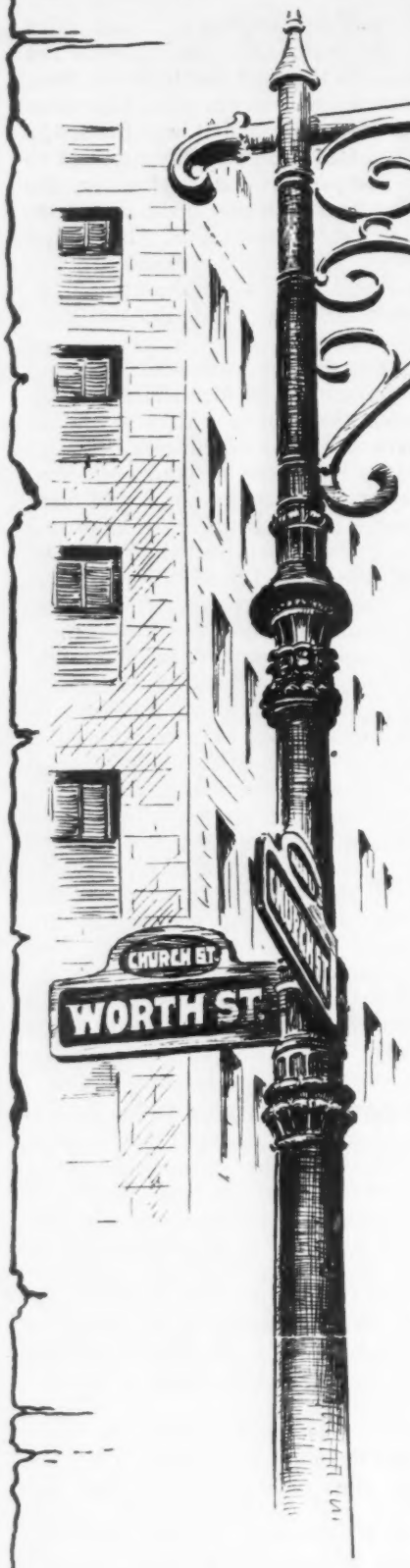
METHODS COMPARED. Twenty-five slides were first prepared for study. Two observers, working independently, each using one of the methods, counted the mature fibers on each slide. The average difference between workers is less than 3, and the average immaturities are 24.43% by NaOH and 24.64% by polarized light. These results are given in Table 1.

From one of the slides, the violet and blue fibers were separated from the yellow and yellow-green fibers and each group mounted on a slide. These were treated with NaOH and the wall and lumen each measured for each fiber. Results are given in Table 2. It may be noted that when the width of the wall is multiplied by 2 and added to the lumen, the sum is often not equal to the total width of the fiber. Only the wall on one side of the fiber was measured, and it was frequently noted that the two walls appeared to be unequal in width. However, the differences were not great enough to affect the classification. It is not known whether this difference in wall thickness was a peculiarity of the untreated fiber or was due to differential swelling.

From these measurements, it is seen that there are decided differences between the relative widths of the lumens and walls of the two classes of fibers. There were no border-line cases for the few fibers measured. All fibers rated as mature by polarized light were also mature when treated with NaOH and measured. Likewise those classed as immature by polarized light were immature by the NaOH method. Although the number of fibers thus studied individually is small, there is no significant difference in results by the two methods. The question as to whether the polarized light method will allow distinguishing between a small-diameter mature fiber and a large-diameter immature fiber appears to be answered affirmatively, as both small and large diameter fibers are found in both the mature and immature groups of fibers, and their average widths differ little. There appears to have been no confusion in classifying them due to diameter of the fibers.

87 COTTONS TESTED. Following this preliminary study, a total of 87 cottons —differing either in variety, season grown, or place grown—were classed by each of the two methods using the same fibers for both methods. Since the fibers studied included 100 from each 2/16-in. length group in the array and included 3 arrays, each cotton had from 1,800 to 2,700 fibers classed by each method. For many of the cottons, two workers, working independently, made the determinations. One rated the fibers by polarized light, and the other worker then treated the fibers with NaOH and rated them without reference to the former results. The workers alternated methods at intervals. For the other cottons, one worker made all determinations; first the polarizing microscope was used for a number of slides; and, at a later date, the NaOH method was used for the same slides. For this report, the immaturities were not adjusted for the number of fibers of each length group but are given for the number of fibers on the slides. There would have

(Continued on page 214)



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Textile SAFETY RECORD Reflects Help of Mill Executives

HIGHLIGHTS: Papers presented before textile section of recent National Safety Congress. Supervisors convinced that accidents are preventable. Color selection will reduce employee eye-strain.

EXECUTIVE PARTICIPATION on the part of textile-mill officials was the keynote of the recent National Safety Conference held at Chicago. It was stated that cooperation between mill officials, superintendents, and safety directors resulted in the reduction of lost-time accidents in mills actively engaged in supplying our armed forces.

Officers elected to the Executive Committee, Textile Section, for 1944 to 1945 are as follows: John J. Burger, W. J. Dickey & Sons, Inc., general chairman; David Z. Walley, Peerless Woolen Mills, vice-chairman; H. E. Williams, Marshall Field & Co., engineering and safe practices pamphlet committee chairman; D. A. Purcell, Marshall Field & Co., health chairman; and W. H. Taylor, Merrimack Mfg. Co., membership and publicity committee chairman.

Executives' Part in Safety Program

"SINCE EXECUTIVES are most easily influenced by what they can see in black and white, an appeal to the eye or through the printed word will be the Safety Director's best method in gaining their interest," stated David Z. Walley, Peerless Woolen Mills, Rossville, Ga. First, use graphs and charts which explain the plant accident reports and waste records. Secondly, use selected slide film and movies, and thirdly, use selected short topics from safety periodicals. Finally, use State and Federal laws which were made to help protect the working man.

"The black and white method, however, is not the only one which the safety director can use advantageously. The humanitarian standpoint is often effective in enlisting the interest of management," continued Mr. Walley.

Training Within Industry, the insurance-agent and safety engineer, as well as other outside agencies, are often a big help to the safety director in arousing management's enthusiastic cooperation.

Color and the Textile Industry

"COLOR," explained Russell Shepheard, technical service engineer, The Arco Paint Co., Cleveland, Ohio, "as a means of conveying messages through the eyes, to the brain, is not new; but industry has been slow in adapting this medium to its safety program."

Color can be recognized at a greater distance than the printed word, and when given a definite meaning, it tells the story at a single glance.

APPEARANCE OF COLORS. If the lighting in your mill is other than normal, colors suggested for a safety code should be checked under the light to determine if they still retain their identity. Use of symbols is a valuable addition to the color code as seldom are both color and design not distinguishable.

Faber Birren, one of America's foremost color authorities, in collaboration with H. E. Williams, safety engineer, Marshall Field & Co., Spray, N. C., chairman of Safe Practices Pamphlet Committee, Textile Section of the National Safety Council, and other industrial safety engineers, has worked out the details of the code. Six basic standards have been chosen as a useful and practical color code, namely: yellow, orange, green, red, blue, and white (black or gray). (The safety color code was covered in detail in the May 1944, and in the November 1944 issues of TEXTILE WORLD.) Too great a use of bright colors will not only be distracting, but may cry "wolf" too often and so defeat the purpose.

LIGHTING. Perhaps the greatest single cause of accidents is fatigue, and anything we do to reduce fatigue is beneficial. Tired eyes make tired workers.

Poor light, or poorly directed light can cause eye strain, but even in good light, if the contrast between the seeing task and the background is wrong, vision is poor. Paint, because of the wide selection of colors and light reflection factors, is a valuable aid in creating proper brightness and color contrasts.

A complementary color to that of the object may be used if it has the same brightness or light reflection factor, thereby tending to focus the vision to the seeing task and is restful to the eyes. Grayed colors, rather than pure colors, are best suited in this instance.

Glare is another condition which tires the eyes and saps the strength. Workers should never be required to face windows, exposed lights, or contrasting areas.

A fact which is usually overlooked in seeing problems, is the opening and the closing of the pupil which regulates the amount of light entering the eye. The pupil reacts in 0.04 or 0.05 sec., going from dark to light, but reacts much slower in going from light to dark. If a worker is working

(*Continued on page 226*)

Ways Management Actively Participates

One of the most common ways to gain the active participation of management in a safety program is to invite the executives to the safety meetings, according to David Z. Walley, of Peerless Woolen Mills. Then an executive adds much prestige when he accompanies a safety committee on its rounds.

A number of plants have schools for safety instructions. The attendance of these classes by management will transmit this feeling of enthusiasm to their fellow workers.

A safety contest announced by a signed letter from a top executive and the awarding of prizes arouses a spontaneous, contagious interest.

As for the house organ, one cannot place too much emphasis on the safety articles which it contains and which are signed by a plant executive.

Speaking of postwar plans...

Hallelujah, what a day is coming! A day when a fellow can drop his gear in his tracks, climb into a real bed as soft as a marshmallow, and s-t-r-e-t-c-h every last muscle! A day when he can feel again the caress of sleek, soft, white Pacific Sheets against his tired body.

Sure there's such a day coming. Every time each of us lifts a finger in a war task we bring it closer. Let's make it soon. Let's pitch in and give the boys what they need to finish this war — and give it in lavish abundance.

Take a war job, or hang onto the one you have. Buy bonds... more and more and still more! Conserve your worldly goods: *mend* that old sheet; don't throw it away. And when at last you *must* buy replacements, let them be superb Pacific Balanced Sheets — most service and satisfaction for your money. Pacific Mills, 214 Church Street, New York 13.

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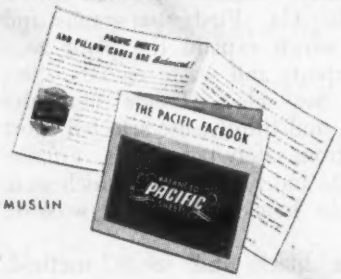

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PACIFIC MILLS

FIXING Hosiery MACHINES

READING CENTER-LACE ATTACHMENT—TYPE 29

By WALTER A. SIMOND

A PATTERN-CHAIN LAYOUT for a design using picot bars with 1 point in and 9 points out is shown in Fig. F-80. A pattern chain for this layout is shown in the lower part of the illustration. The pattern chain made will show how to knit the numbers into the welt of the hosiery. Since the chain should operate continuously to eliminate re-setting each time at the starting point, it is necessary to have an even number of links in the chain, therefore the design shown in Fig. F-80 is repeated.

A chain layout for the independent chain motion center-lace attachment, type 29, for the design illustrated in Fig. F-80, is shown in Fig. F-81. At point C-C the chain is stopped for the knitting of the 180 courses between the two parts of the design. The independent chain is stopped by the action of a button A on the stop row of the chain and started again by the action of the button B on the main chain motion after these courses have been knit.

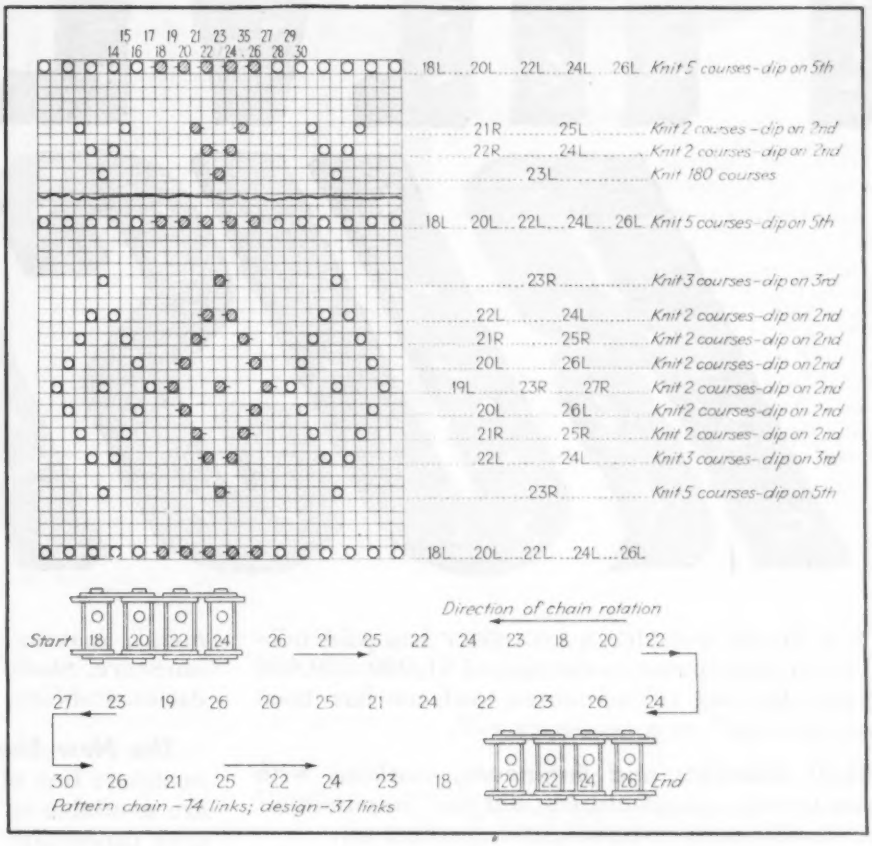


Fig. F-80. Center-lace design for knitting numbers in the welt.

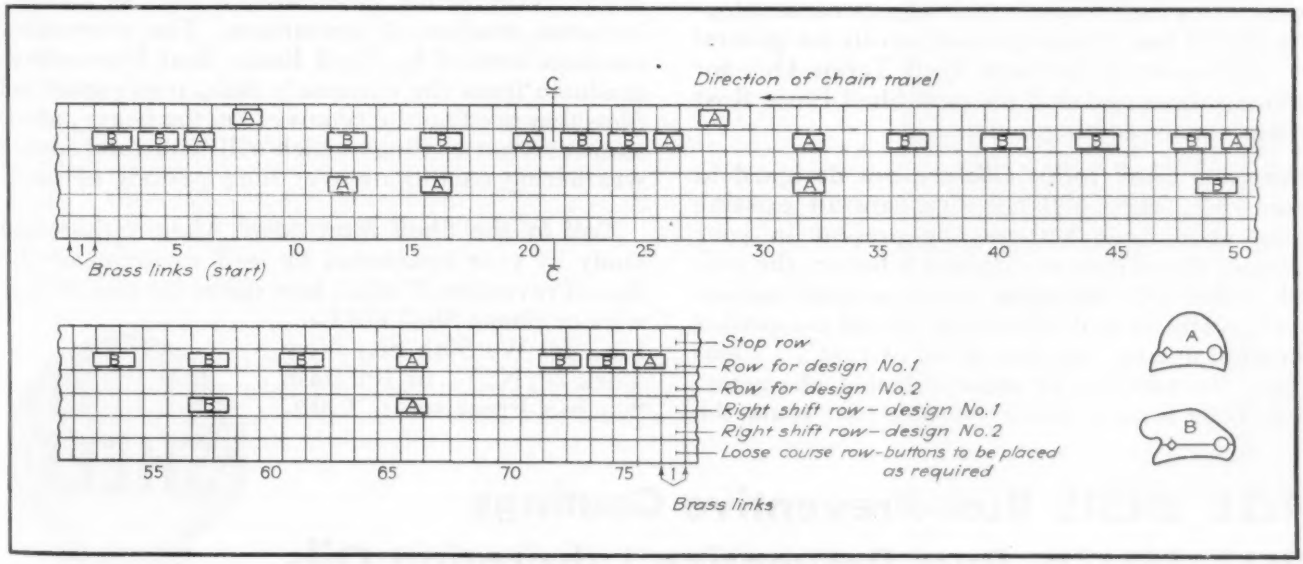

Direction of chain travel
Brass links (start)
Stop row
Row for design No. 1
Row for design No. 2
Right shift row – design No. 1
Right shift row – design No. 2
Loose course row-buttons to be placed as required
Brass links

Fig. F-81. Chain layout for independent chain motion for the design in Fig. F-80.

At Last!—a line of products to PREVENT RUST!

FOR YEARS AMERICAN INDUSTRY has paid tribute to demon rust to the tune of $1,000,000,000 a year. Rusting of lubricated surfaces has been "put up with" as a necessary evil.

Shell Scientists and Engineers, working with steam turbine manufacturers, did the "impossible" . . . developed a rust-preventive turbine oil.

Using the Wealth of Knowledge gained by developing and perfecting this oil, Shell's Research Laboratories then focused their efforts on developing a similar line of rust-preventive oils for general use. The result is the new Shell Tellus Oils for machine lubrication and the new Shell Ensis Rust Preventives for coating metals.

The New Shell Tellus Oils are not designed to *remove* rust. They will not eliminate all existing rusting conditions that may be present in your machines. But where moisture is a factor, the new Shell Tellus Oils, because of the special rust-inhibiting qualities built into them, afford unequalled protection against the formation of rust . . . and without the sacrifice of other valuable characteristics. They form a protective film that coats the metal, making it highly resistant to water and moisture. Shell Tellus Oils also have superior oxidation stability.

The New Shell Ensis Rust Preventives cover a complete line of oils, fluids and compounds. They are available in a number of grades, designed to give protection against the dangers of exposure, which range from the extreme effects of rain and snow during outdoor storage, to the mild humidity conditions encountered in the factory between machining operations. The protective coatings formed by Shell Ensis Rust Preventives graduate from the extremely thin, transparent oil films that need not be removed, to the heavy, abrasion-resistant coatings which will withstand severe weathering conditions over long periods of time.

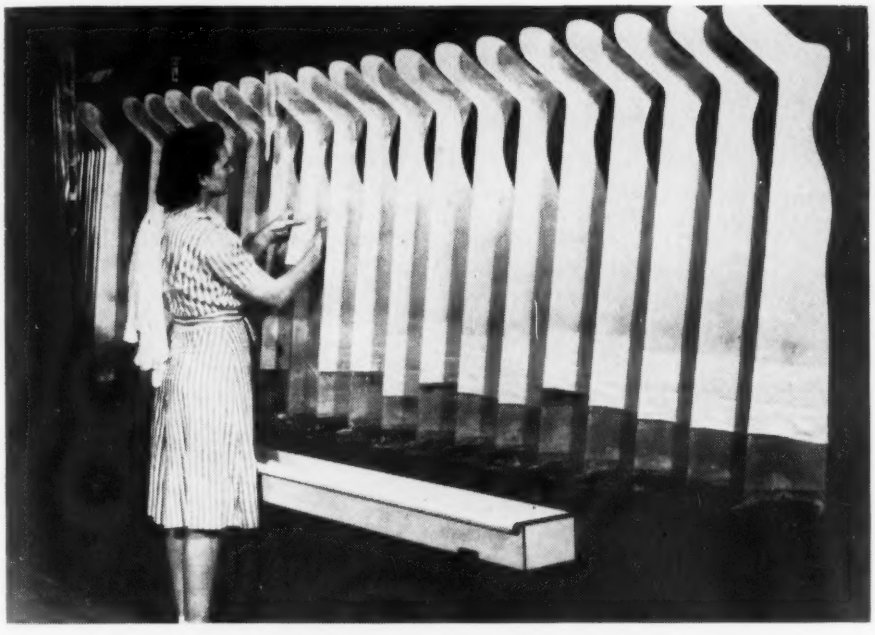
Call in the Shell Man now! After a thorough study of your operation, he will recommend the Rust-Preventive Product best suited for you. Write, wire or phone Shell Oil Co., Inc., 50 W. 50th St., New York 20, N. Y., or 100 Bush St., San Francisco 6, Calif.

SHELL ENSIS Rust-Preventive Coatings
SHELL TELLUS Rust-Preventive Lubricating Oils

SHELL

TEXTILE Equipment NEWS

Preboarding Machine



Preboarding machine for handling nylon hosiery (Turbo)

The Turbo Preboarding Machine has been designed by Turbo Machine Co., Division of Dexdale Hosiery Mills, Lansdale, Pa., to simplify the operation and methods of manufacture in preboarding nylon hosiery. Aside from boarding and stripping of the stockings from the forms, the only actuating work required from the operator is to press a button. Each machine requires only one operator. The machine is electrically operated. Cycle of operation may be varied to suit individual requirements for preboarding by simply setting a timing device.

The leg forms are mounted on a collapsible conveyor that is set in a track and is open to its full extent, allowing a reasonable distance between forms for boarding stockings. This conveyor is driven by a slow-speed reduction unit that folds the conveyor to approximately one-fifth its open length. It moves into the door-track inside of the steam chamber, but at the same time the forms on the other conveyor that have been on the door-track move onto the track on the opposite side of machine. The form holders on the conveyor are so constructed that the forms are locked into position and can be removed very easily by raising of lever.

The door of the steam chamber is suspended on roller bearings and is guided by four parallel bars. The door closes automatically when the conveyor moves into the proper position on the door track. After the door closes and seals itself, it closes the circuit that operates a solenoid valve, injecting steam into the chamber. Within a short time, depending upon pressure, the desired temperature is reached in the chamber. The closing of the door also starts the timing device in operation. After a predetermined time has elapsed, the solenoid valve shuts off the steam and opens the exhaust, releasing the steam.

A pressure control switch is used to keep the door from opening before steam pressure is released. By means of adjustment provided, the switch will start opening the door, as desired, when pressure drops.

The machine is actuated by one ½ hp. motor reduction unit for movement of the door and by one ⅓ hp. motor reduction unit for movement of the conveyor. The machine is supplied complete with all electric and steam controls and requires 220 volts, 3 phase, 60 cycle, current for satisfactory operation. Safety devices prevent opening of door with steam in chamber.

Metal Detector

An instrument designed to detect and indicate the presence of tramp iron or steel in materials where such ferrous materials would be dangerous or undesirable, as in bales of cotton, has been developed by Illinois Testing Laboratories, Inc., 420 N. LaSalle St., Chicago 10, Ill. The unit is an adaptation to industrial uses of the Alnor detector equipment used in penal institutions to search inmates and visitors to prevent smuggling guns, files, sawblades, and similar objects.

The industrial type Alnor metal detector is adapted to practically any handling requirements, for detecting magnetic material, in stationary units, or for use with conveyors. The detector consists of search coil, amplifier, and supervisory signals. Amplifier and signals may be a part of the search coil system, or may be remotely located. A micro-control permits easy adjust-

Metal detector for locating iron and other metal products in textile materials (Illinois Testing)

ment of sensitivity. Practically any size opening can be provided to suit requirements of hand or gravity feed, or for use with a continuous conveyor.

In textile materials tramp iron of various kinds presents a decided hazard to fire, to plant equipment, or to personnel. Applications of the Alnor forewarn metal detector can be arranged for continuous flow of material, or periodic flow with manual control. Size of ferrous parts which the system is able to detect depends upon speed of flow through the search coils, and relative size of the search area. Each unit is built to order, to meet individual requirements in sensitivity and in size of opening for passage of material to be inspected.

Sump cleaner for cleaning sludge resulting from scouring (Henry)

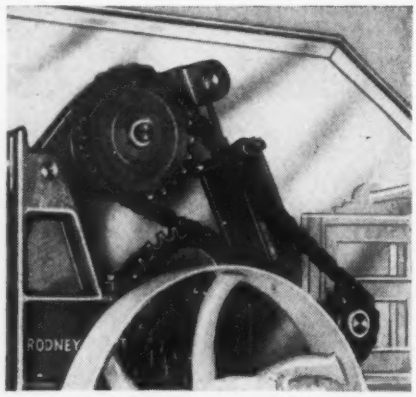
Removing Sludge in Wool Scouring

Equipment consisting of a tank mounted on wheels and a vacuum pump for lifting sludge and viscose liquids from below floor level, is being manufactured by Henry Equipment Co., 305 Bank Bldg., Bowling Green, Ohio.

This equipment, known as a sump cleaner, has been used by the woolen industry for removing semi-solid sludge from underneath wool scouring bowls. Controls have been developed which prevent sludge or abrasives from getting into the vacuum pump. The tank on the larger models is very well balanced so it is easy to tip for unloading. One man may handle the unit and move it about when loaded.

Units of two different capacities are available, one holding 80 gal., while the other holds 125 gal. Each is equipped with a ½ hp. motor and with a positive displacement rotary vacuum-pump which is driven by a V-belt drive.

PNEUMATIC CONTROL FOR WASHERS



A new type of air control to regulate the pressure on the rolls of their stainless steel "Yankee Clipper" washers has been announced by Rodney Hunt Machine Co., Orange, Mass. The new device provides a positive, air-operated control of roll pressure. It is stated that with this unit, pressures as high as 20,000 lb. can be provided if desired.

Trucking Manpower Problem Solved

Anthony Co., Streator, Ill., manufacturers of hydraulic hoists and bodies, are producing a new hydraulic operated device known as a Liftgate Loader. This hydraulic mechanism enables one man to load or unload from platform or van bodies heavy awkward barrels, crates, packages, steel drums, etc., that before required several men to handle. Raising, lowering or holding at any elevation, is accomplished with only one lever.

The lifting mechanism, complete with power take-off, hoist, pump, valve, and liftgate complete, weighs only 670 lb. The wooden, steel, reinforced liftgate may be used in the conventional manner without operating the hoist. The 5-in. hydraulic cylinder stops automatically at ground and body level, and is capable of lifting 1,500 lb. This piece of equipment not only saves manpower, but saves loading and unloading time, reduces personnel accidents and minimizes damage to valuable merchandise.

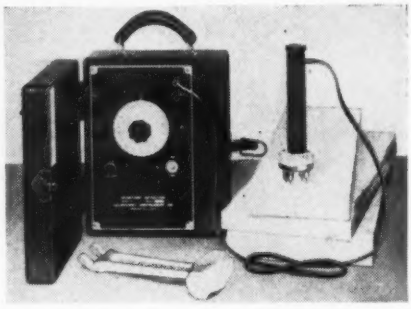
Power lift on truck tailgate (Anthony)

Moisture Detector

The Delmhorst moisture detector has been developed by Colloid Equipment Co., Inc., 50 Church St., New York, for measuring moisture content of yarns, wood, and various materials.

This new model R detector offers quick moisture determinations, and takes advantage of the latest ideas in electrical circuits and electronic principles, all of which have been simplified and combined in a practical meter which covers the range of 7 to 25% moisture, with an accuracy of plus or minus 1%.

The model R detector is complete and self-contained. It is used by forcing the electrode needles into the material being tested; and the reading is then taken simply by turning the dial knob until a small light above the dial flashes at the correct moisture content. When yarns are tested for moisture content use special electrodes.



Simple electric instrument which may be used to detect moisture content of yarns (Colloid)

Sensitive Scale With Wide Range

A sensitivity of the type ordinarily associated with a laboratory balance, combined with the speed and ease of operating an automatic scale, is found in the Toledo "9190" series scale, manufactured by Toledo Scale Co., Telegraph Rd., Toledo 12, Ohio.

The "9190" may be used either as a general purpose scale or for specialized weighing problems. Rapid action, durability, and a wide choice of charts and equipment make this adaptable to the weighing of small yarn and fabric samples, critical quantities of materials, for counting and for weighing of test samples. As an example of one of its specialized applications in the textile industry, optional equipment includes a hook adapting it for weighing roving.

This scale is available for weighing either in grams or grains, and has a capacity of 1,500 grains. Graduations are as fine as 2 grains, or 0.2 gram. The indicator comes to rest quickly

What's Going On Here?

Now with 3 stars

It Will Pay You To Find Out, If You Have Anything To Do With The Postwar Production Of Cotton, Worsted, Rayon, Spun Rayon, Silk, Nylon or Combination YARNS.

Now is the time to check up on what's going on here at ATWOOD. You'll find it highly interesting and profitable to get in touch with us and get the whole story as it applies to *your* yarns and *your* production needs.

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Sensitive scale developed for many uses in textile mills (Toledo Scale)

when weighing. The mechanism is simple and has a minimum of operating parts. Optional is a sturdy carrying case which adds to the compactness and easy portability of the scale. Without the case, the scale has over-all dimensions of 15¾ in. by 14½ in.

Useful Accessories in Textile Mills

Portable electric unit heaters are being offered by Electric Air Heater Co., Division of American Foundry Equipment Co., Mishawaka, Ind. These heaters are being built in an 18 kw. capacity, complete with controls and 50 ft. of heavy rubber-covered cable and connector. They are useful in heating spaces in various parts of the plant, as they may be moved from one location to another, and especially in the shipping room where they may be moved into railroad cars for pre-heating prior to winter loading.

A timeter is being manufactured by National Instrument Co., Newtonville 60, Mass., which is an electrically-operated measuring instrument registering automatically the operating hours of any electrical device or motor-driven machine. The unit registers in hours by tenths and may be easily reset.

Mechanical handling of loads up to 2,000 lb. is possible by means of a power-lift truck, known as the Hyster 20, being manufactured by Hyster Co., Portland 8, Ore. This gas-powered lift-truck travels at a speed of 12 m.p.h. and turns in its own length.

Gas-actuated fluorescent lamp starter, of improved design to assure faster starting, known as the Glostat FS-5, for 4-, 6- and 8-watt fluorescent lamps, has recently been announced by Sylvania Electric Products, Inc., Salem, Mass. Other models include the FS-2 for 15- and 20-watt and the FS-4 for 30- and 40-watt lamps. Starter contacts are enclosed in a low-pressure argon gas atmosphere. When the line switch is closed, the argon gas glows and heats the bimetal element which momentarily closes the circuit to preheat the lamp cathodes.

A non-sparking scoop for use in handling highly inflammable materials from barrels to other vessels is being made available by Hercules Powder Co.'s Cellulose Products Dept., Wilmington, Del. The scoop is made of hard fiber and will minimize the possibility of sparks. The scoop is 11 in. in length and 7 in. in diameter at the base.

A set of three decalcomanias for first-aid fire extinguishers has been made up by Walter Kidde & Co., Inc., New York 6, manufacturers of fire-protection equipment. These decals, which can be transferred to the extinguisher itself or to the wall behind its station, indicate briefly and clearly the fires for which that particular unit is suitable and those on which it should not be used.

A plastic packing, recommended for air, ammonia, gases, water, mild chemicals, and general services at temperatures not exceeding 550 deg. F., is being produced by Greene, Tweed & Co., 4377 Bronx Blvd., New York 66. This packing may be installed in pumps, valves and on rotating shafts of steam and chemical equipment, and has been found to give highly satisfactory service. The packing consists of a combination graphite with flakes of soft, anti-friction metal and long asbestos fibers.

Mill Maintenance TO KEEP 'EM RUNNING

Maintaining Floors in Textile Mills

Dry cleaning of wood and asphalt tile floors is possible through a system of floor maintenance developed by G. H. Tennate Co., Minneapolis, Minn. This system of floor treatment permits dry cleaning and eliminates the hazard of slipping on wet floors. Also the hazards offered by greasy and oily floors are greatly reduced by this method of cleaning.

Briefly the process consists of:

1. Sanding an old scrubbed floor to get down to a bright, hard surface.
2. Sealing the floor to preserve and harden it.

Strip wood floor maintained bright and clean the TENNANT "Dry Cleaning" way.
Knitting Department, McEwen Division,
May McEwen Kaiser, Burlington, North Carolina

Cleaning of floors in this plant is accomplished simply and efficiently using only a dry cotton mop.

3. Buffing with steel-wool to give the floor a smooth, hard finish.

From then on, the floor may be dry cleaned. This is done by daily sweeping with a wide cotton mop instead of with push brooms. This method of sweeping is fast and efficient. It eliminates all dust. Thread and lint are picked up, as well as oil spots. When the floors need more thorough cleaning, this is done dry with the Tennant machine, using steel-wool. Each time the cleaning process is repeated, the finish and the floor surface improves.

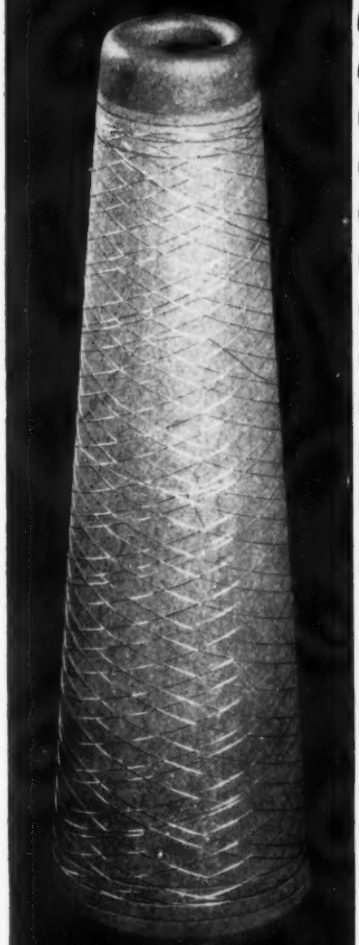
Safety in Cleaning Organic Solvent Tanks

The cleaning or repair of tanks in which organic solvents are used should not be undertaken without rigid precautions, according to the Safety Research Institute, inasmuch as the vapors of all organic solvents are toxic and the majority are flammable as well. Oxygen deficiency in the tank is another hazard which must be considered.

If a tank has contained a flammable solvent, the safest method for removing the vapors, preparatory to cleaning or repair, appears to be thorough flushing by steam, followed by mechanical ventilation of a type approved for flammable vapors. Steam jets to loosen sludge have been successful, the tank

Surface Problems that lie at the bottom of Coned Yarns

Filament break due to "drag"



ALL VELVET

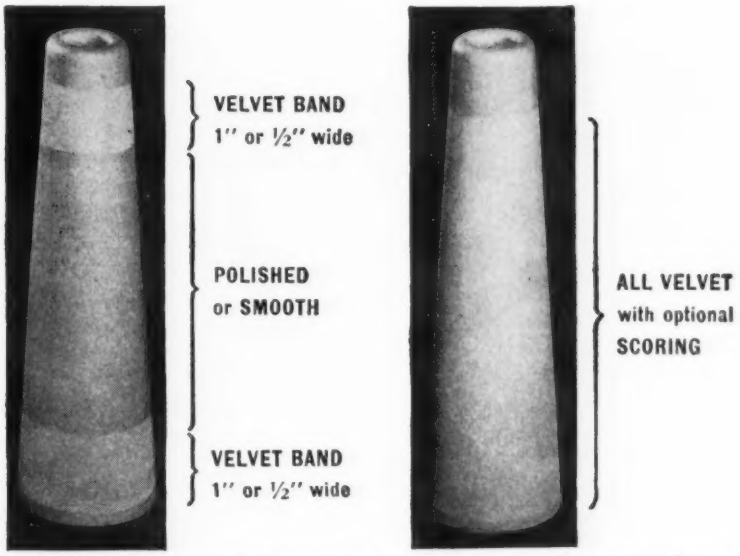
Freedom from "DRAG"

Illustrated below are the three SONOCO methods of holding a selvage edge in the primary winding—and yet permitting free delivery to the last turn.

1. The banded cone, ground with ½" or 1" velvet bands top and bottom, and smooth inbetween surface. This surfacing of both bands and inbetween area can be varied according to the yarn. For example, low twist rayon (1½ to 2 turns per inch) requires very delicate treatment. (See illustration at left.) A fine velvet surface band and a polished inbetween surface will avoid this problem.

2. The all-velvet surface cone will carry a harder twist yarn, prevent slippage, hold the selvage edge in the primary winding, and deliver freely to the last turn. Different yarns, however, require varying degrees of "pile" of the velvet surface.

3. Scoring is primarily to hold the selvage edge in building-up the package and prevent slippage from rough handling or because the yarn has a tendency to "roll."



SONOCO is constantly experimenting with *surfaces*—to keep up with the new yarns and twists—and to be able to offer the right cone and the right treatment for the particular job at hand.

SONOCO Technical Experts are at your service.

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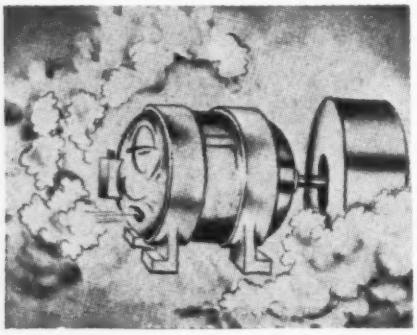
DEPENDABLE SOURCE OF SUPPLY

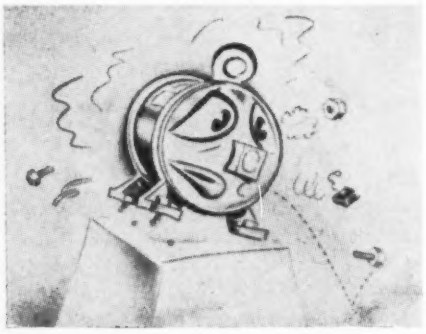
then being washed, drained and dried out with warm air. If the use of steam is impractical, the sludge may be washed out with high-pressure hose, but care must be exercised to avoid building up static electricity. Steam also has some disadvantages, such as the building up of combustible mixtures at the vents. Non-sparking shoes and tools, vapor-proof lamps, and protective clothing should be utilized, and otherwise the Code for Flammable Liquids and Gases of the National Fire Protection Association observed.

Four Freedoms for Motors

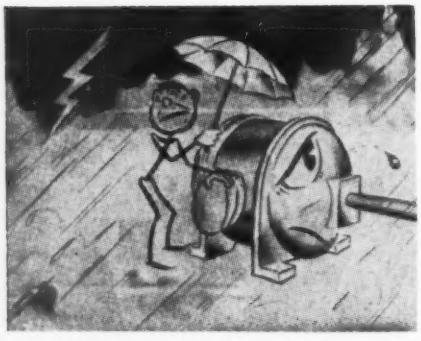
The principal causes of motor failure, according to a recent issue of Wesco *Reporter*, published by Westinghouse Electric Supply Co., have been boiled down to four simple and obvious conditions, as illustrated. Yet they are the causes of 90% of a motor's failures. Regular and reasonable care of your equipment will assure freedom from the four sources of preventable breakdowns.



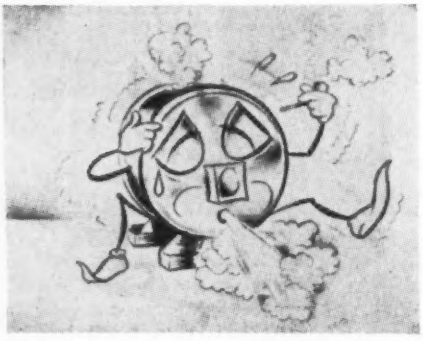
Freedom No. 1 is freedom from dirt. Dirt interferes with cooling, glazes brushes, abrades slip-rings, and causes short circuits.



Freedom No. 2 is freedom from vibration. Vibration breaks connections, creates friction, and crystallizes metallic structure.



Freedom No. 3 is freedom from moisture. Moisture ruins insulation, absorbs acid fumes, and unites with dirt to form grime.



Freedom No. 4 is freedom from friction. Improper oiling deteriorates insulation, fouls commutator bars, and burns out windings.

Cartoons courtesy of Wesco Reporter.

DYES & CHEMICALS — PRODUCTS & PROCESSES

High-Temperature Enzyme

RHOZYME DX; Rohm & Haas Co., Washington Square, Philadelphia, Pa.

This product is a new desizing agent. It is claimed to possess some unique properties when compared with enzyme products now in use, as it is a rapid desizing product which can be used at high temperatures. Its best working range is from 140° to 160° F., although the manufacturer states that it has been used successfully on short runs at 180° F. However, no claims are made that it will stand this high temperature for too long a time. It is said to work efficiently at temperatures below 140° F. This enzyme is intended for the removal of starch and allied products, but not for glues or gelatines.

New Thermoplastics

PICCOLASTIC RESINS; Pennsylvania Industrial Chemical Corp., Clairton, Pa.

These resins constitute an entirely new group of elastic thermoplastic hydrocarbon resins, it is said. They are based on styrene, substituted styrene, and homologues. They vary in characteristics from viscous fluids through tacky solids to resins of hard, horny toughness. They are generally of a pale color; and the series comprises a wide assortment of melting points, molecular weights, solvencies, and other properties.

They are comparatively new, and their uses in the textile field have not been developed.

Hydrophilic Colloid

SODIUM CARBOXY-MENTHYL CELLULOSE; Hercules Powder Co., Cellulose Products Dept., Wilmington, Del.

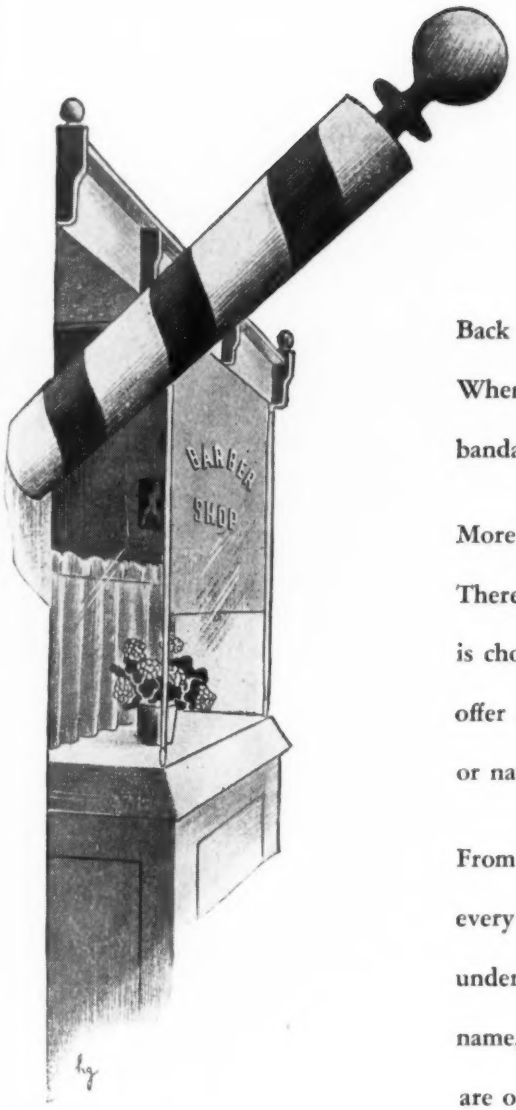
Production of this chemical on a small scale has been announced by the Hercules Powder Co. It is a water-soluble cellulose derivative and is said to possess pronounced suspending, thickening, stabilizing, and film-forming properties. It is a hydrophilic colloid.

Possible applications in the textile field would be as a thickener for printing pastes, a finishing agent where clarity of film deposit is desired, and a protective colloid for oil-in-water emulsions.

Possible Detergent, Activator

TERTITOL PENETRANT 4 PASTE; Carbide & Carbon Chemicals Corp., 30 East 42nd St., New York, N. Y.

This paste is offered by the above company as a concentrated form of sodium tetradecyl sulphate, being a paste consisting of 50% water and 50% sodium tetradecyl sulphate. It is an exceptionally pure product, containing practically no inorganic salts or mutual solvents. It is said this product increases the activity of bactericides and antiseptics, and has possible applications as a detergent in the textile field.



Remember?

Back when barbers were surgeons, blood letting was a cure-all. When the bloody pole held by patients was not used, it was tied with bandages and placed outside for customer attraction.

More and more your trademark must be as effective as the barberpole. There's no apology for poor labeling and marking when a customer is choosing between competitive items. Kaumagraph Products offer several attractive, safe methods of presenting the trademark or name on your product.

From the inception of your trademark, or other designs, on through every detail of production, Kaumagraph in its own organization, under one roof, provides you with identification that will protect your name, and invite repeat sales. While even now war requirements are occupying us pretty fully, nevertheless planning already is the order of the day. Many new war-tested products are available now, others when hostilities cease. Send for a Kaumagraph Identification Man today.

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Kinks AND SHORT-CUTS

A $25 WAR BOND FOR YOUR IDEA

A $25 War Bond will be awarded each month for the most useful "kink" published in this department. This contest is open to all readers of TEXTILE WORLD, and there is no limit to the number of entries any one person may make.

Contributions must be received not later than the last day of the month to be elligible for the award for the second succeeding month. Items may pertain to production methods, mill engineering, safety, cutting costs, improving quality, speeding up production; in brief, any little device, stunt, kink, or short-cut which you have tried out in your own mill and which you believe will be helpful to other mill men. Items should contain sufficient detail to permit other mill men to utilize the ideas in their own operations. Previously published material is not eligible for the award. Judges of the contest are the editors of TEXTILE WORLD.

TEXTILE WORLD shall have the right to publish any items submitted. Items which are accepted will be paid for at our regular rate for this type of matter with extra payment for appropriate sketches or photographs. The sketch you submit need not be a finished drawing.

In writing to this department, give your real name and address as evidence of good faith and to permit payment for items accepted. Your identity will not be published unless you give permission.

Contributions should be addressed to: Technical Editor, TEXTILE WORLD, 330 West 42nd St., New York 18, N. Y.

★ WAR BOND PRIZE WINNER FOR FEBRUARY

(December Contest)

Thimbles Assist in Covering Rolls

Synthetic rubber and plastic cots are becoming of increasing importance as material for covering arbors; but often they are difficult to put on since they, generally, are supplied in tubular form with an inside diameter slightly less than the outside diameter of the arbor.

After considerable trouble due to turning and chipping the inner edge of cots, we made up two thimbles as shown to assist us.

In the drawing, *A* is an arbor, *B* the thimble, and *C* is a cot to be forced on. Dotted lines show how the inside of the thimble is formed to fit against the end of an arbor of this type.

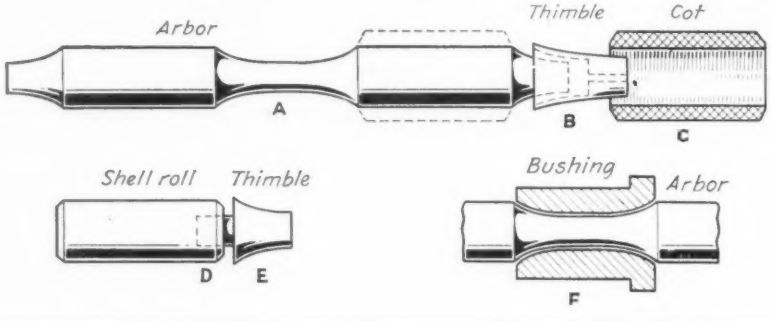
For placing a cot on a shell roll as shown in *D*, a thimble shaped as shown in *E* can be used. In such instances, the thimble is almost an absolute necessity.

Both thimbles have a slightly larger diameter than the arbor or roll to be covered.

Quite often cots are driven on too far. To prevent this, we use a split bushing shown in *F*. This device fits into a vise to serve the double purpose of holding an arbor and stopping a cot once it has been driven on far enough.

The bushings and thimbles can be made from brass which not only does not rust, but also can be highly polished. The sizes of these thimbles and bushing will depend, of course, on the rolls to be covered. (K-289)

E. Bentley, Dixie, Lachine, Canada



Removing Tip Improves Quiller-Guide Performance

The regular thread-guide used on Universal No. 90 winders was made for use with an overhead or underneath yarn supply. When an underneath supply is used, you need the nose of this guide slotted; but when an overhead supply is used, you don't need the slot. I find that this slot in the nose of the guide interferes with the starting of the bobbin by sometimes catching the end when the winder hand pushes the thread-guide up to the bunch-builder guide to start winding. This is likely to wind the yarn the length of the traverse two or three times before the winder hand removes it to permit the bunch-builder guide to operate as it should. Of course, these bobbins should be removed and unwound, but this is not always done; therefore, the filling-feeler on the loom does not work as it should.

Grinding off the nose of the guide, I found, eliminates the catching of the end in the nose and also helps in-

AN "ALL AMERICAN" TEAM

FOR ANY *FRENCH-DRAWING* ROOM

Interesecting Gill Boxes:—On this, the first operation of French Drawing we suggest the semi-firm Mineral Tan (chrome) apron. The leather is tanned and processed to offer minimum static electricity which keeps at a minimum the "licking up" of stock while running. The quality of this leather insures rapid "fluting in" on the rolls, elimination of stretch while running, and no "pulling in" in width. Barnes' high standard, waterproof, even splice may be had straight or diagonal. For those who prefer brown leather we furnish our Gam-Oil which is tops. Both Mineral Tan and Gam-Oil aprons available in all sizes and thicknesses.

French Drawing Frames:—You have three choices from the Barnes' line: Finisham, a soft pliable, white leather with excellent rubbing surface. Not a copy of something else, but in a class by itself. Another example of Barnes' practice to offer the mills the Best. If you prefer grooved aprons, you have your choice of Gam-Oil (semi firm) or Barnes Oak (firm). From these three aprons you can arrive at the perfect combination.

Grooves:—Our special method of grooving enables us to give you any width and depth groove needed for the work you are doing. Our spiral groove is clean cut, free from rough edges, *uniform* in width and depth throughout, and available in your specifications as to number of grooves to the inch of width.

Splices:—Our usual soft, pliable, uniform lap is waterproof and strong processed to eliminate any glazing.

Sizes: All types of Barnes' rub aprons may be had in all widths and lengths, endless or prepared for you to make endless on machine. Thicknesses vary from 2½ M/M (3/32") to 5 M/M (3/16").

BARNES PRODUCTS

Aprons for Combing, Preparing, Finishing and Drawing
FRENCH AND BRADFORD SYSTEMS
Chrome—Brown—Special Tan

Plain and Hair-On Loom Strapping

BELTING
First-Quality Center Stock Prestretched and Manufactured for Each Drive Condition Available in All Tannages

HENRY K. BARNES COMPANY • SALEM, MASSACHUSETTS

BARNES THE *Textile Leather* HOUSE

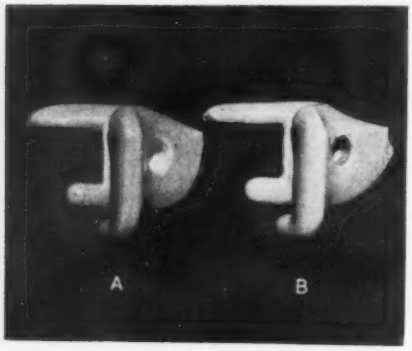
SINCE 1876

Where unusual knowledge of Leather is combined with long years of Textile experience
APRONS—BELTING • FLAT • ROUND • & ACCESSORIES—STRAPPING

KINKS & SHORT-CUTS

(Continued from page 176)

crease operator production. The thread guide *A* in the illustration will show how much to grind off; *B* shows how the noses of these guides will sometimes break by coming in contact with the bunch-builder thread-guide. *(K-273)*



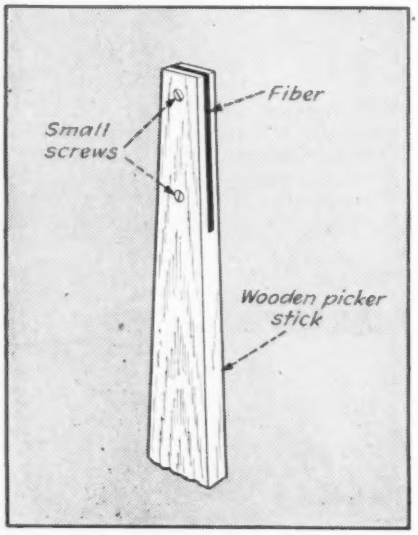
Tip of quiller guide, not used with overhead supply, sometimes interferes with building of bunch.

Fiber Inserts Increase Life of Picker Sticks

I have devised a way of decreasing picker-stick wear near the picker block on both the plain and box side of a loom. Especially on box-side sticks, wear is great; but even here, the method shown in the sketch has doubled the life of the sticks.

Cut a slot down through the stick end, as shown, and insert a piece of fiber to fit snugly. Then drill through the wood and fiber and place in two wood screws, one near the top and one near the bottom, to hold the fiber.

Wood wears more quickly than fiber; accordingly, the fiber strip takes most of the power applied at picking and checking once the wood has started to wear. After inserting the fiber, dress the end smoothly; the stick is then ready for the loom. A fixer can have these sticks prepared so that no time is lost when a stick breaks. *(K-255)*

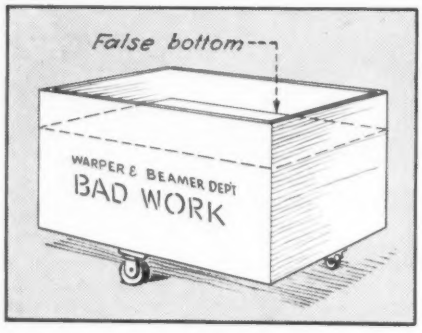


Fiber insert is held by two small screws.

Bad-Work Container That Is Not Misused

In the twisting, warping, and beaming departments, tangled spools, corky yarn, oily yarn, etc., must be accumulated and returned to the department making the bad work. We tried using a regular yarn box for this only to find it missing and the bad bobbins of yarn mixed with "good" yarn.

We took a yarn box and had the carpenter shop put in a false bottom about one foot from the top, to make the box unsuitable for ordinary use, and stenciled it approximately on the sides, as shown in the illustration. It is now always in place when needed.



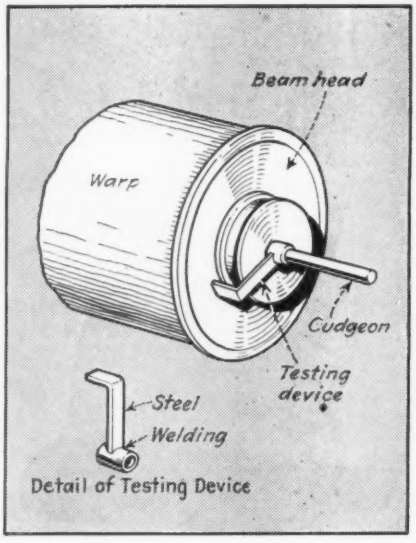
A permanently affixed false bottom and a label keep truck available.

Once each day the second hand on the first shift goes through the bad work, puts an identifying tag on each spool, and returns the bad yarn to the proper department. *(K-202)*

Gage Tests Trueness Of Loom-Beam Gudgeons

Due to the heavy beams being used today, it is not unusual to find beam gudgeons that have been bent. During weaving, badly bent gudgeons can cause barre defects. Correction is difficult to make until the beam has been removed from the loom.

To keep bent gudgeons from being used, the small gadget shown can be used for testing gudgeon trueness.



Similar testing device can be made also for section beams.

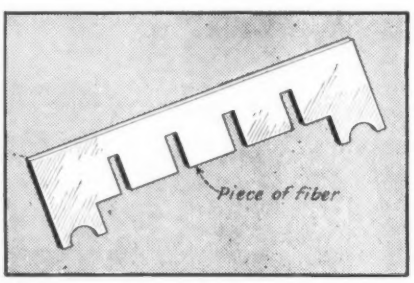
The device is made from a short piece of flat steel 1-in. wide by ¼-in. thick and welded onto a 1-in. length of pipe or other tubing that will fit snugly over the gudgeon.

Shape the steel after brazing onto the pipe so that it will fit loosely over the outer rim of the beam head. The gadget is turned around the beam head for testing gudgeon trueness.

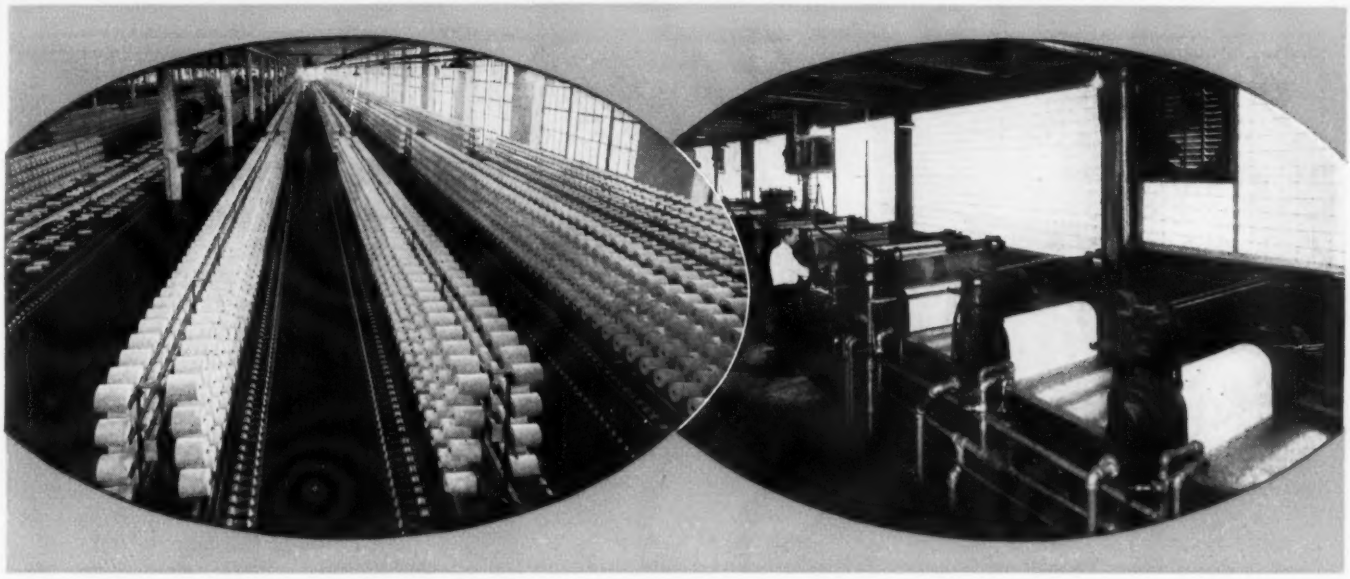
If a gudgeon is bent, the device cannot be moved freely, but will show high and low spots around the beam head; or the pipe will otherwise stick. When a high spot is found, a tap with a heavy hammer on the end of the gudgeon should force it into alignment. Keep making necessary tests until the gudgeon has been straightened satisfactorily. *(K-281)*

Drop-Wire Electrodes Separated by Fiber Form

On high-count warps requiring heavy warp tension, it is not unusual to find false loom stops due to a faulty warp stop motion. These stops are often caused by drop-wire electrode bars crowding together near the warp center. To overcome this condition, a separator can be made to



Heavy warp tension often necessitates center separator for electric stop motions.



TOP QUALITY...

Dixie Spun

DIXIE Durene is spun, processed and finished with "Controlled Manufacture" uppermost in the mind of everyone who has a part in its production. Every employee is a self-appointed inspector, and is paid a bonus to detect and eliminate defects.

Using the finest equipment available, moreover, raw cotton is put through process after process in weeding out short fibers and "weaklings." In combing and carding, Dixie removes 30% in waste.

Thus, Dixie Durene comes to you smooth, lustrous . . . of uniform texture . . . top qualities that mean smoother operation in knitting.

Remember Dixie Durene in your post-war production plans. The War is still demanding most of Dixie's output, and the small amount of Dixie Durene available for civilian use is being distributed as fairly as possible.

10% OF DIXIE'S PAYROLL IS INVESTED IN WAR BONDS

Dixie MERCERIZING COMPANY

CHATTANOOGA 1, TENNESSEE

AMERICAN COTTON MADE IN U.S.A.

Dixie Durene

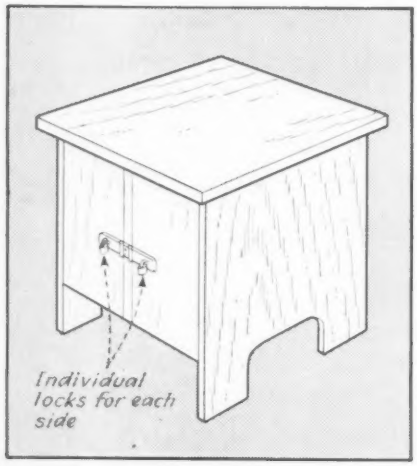
A PRODUCT OF CONTROLLED MANUFACTURE

keep the bars spaced equally and to prevent drop-wires from meshing between the wires of an adjacent bar to make contact with the electrode on it.

For very wide looms, electrode separators are furnished; but on narrow looms, the separator is usually thought unnecessary. Separators which are supplied usually fit between the top and bottom bars.

The separator shown in the sketch is easily made. To attach it, merely drop it down over the electrode bars near the center where the bars are pressed together. The force of the drop-wires and bars will hold it permanently in place.

The separator should be made to fit the number of electrodes being used. Use $\frac{1}{8}$-in. or $\frac{1}{4}$-in. fiber. After shaping the fiber form with a hacksaw, dress it smoothly and shellac it. *(K-278)*



Drawers replace doors when space is needed for use by three persons.

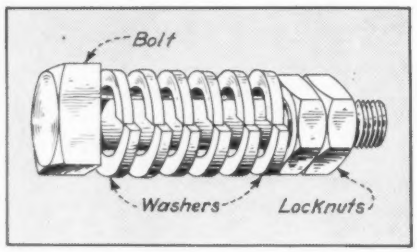
Seats Can Provide Needed Storage Space

Many employees will appreciate the handy bench shown in the illustration. It serves as a seat during rest periods, as well as a place for storing and keeping items necessary during working hours.

As an example in usefulness, assume the bench is supplied to all the weavers, one bench for each set of looms. Each weaver has entering, reeding, and shuttle hooks; picks; scissors; and other tools. (Many weavers have several sets of tools.) Tools cannot be left lying around between shifts, consequently many weavers carry their tools home after each shift, and often forget to bring them back the next day.

The bench can be made with three drawers for 3-shift operation or with doors (as shown) for 2-shift operation. Thus each weaver has his individual compartment which can be kept locked.

The benches usually are made from pine and are painted white, ivory, green, blue, or whatever color is desired. *(K-280)*



Rotating lock washers can be used to dress a grinding wheel.

Device Cuts Glaze On Grinding Wheel

A small gadget that can be made up in a few minutes to remove glaze from a grinding wheel is shown here. It can also be used to true up the wheel when it becomes rounded on the edges. The gadget is made up from a machine bolt, a few lock washers, and two nuts.

Place lock washers on the bolt and run up the two nuts to within $\frac{1}{8}$ in. of the washers; then lock the nuts so they do not work loose. To obtain good results, use a bolt $\frac{1}{8}$ in. smaller than the hole in the lock washers.

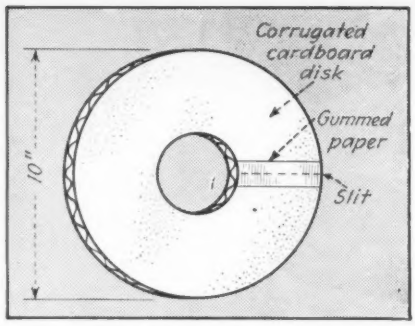
While the grinding wheel is running, hold this gadget up against the wheel so the lock washers are pressed lightly against the surface. The washers should be free to rotate so that the edges where the washers are split can cut the glaze and dirt. They also will dress up a round surface and will produce a flat-faced wheel. *(K-265)*

Cardboard Disks Protect Ends of Cloth on Rolls

A good idea to keep grease and oil from collecting on the sides of the cloth on the bottom of the take-up roll is to use a cardboard disk on each end of the take-up roll.

Cardboard disks can be cut out of corrugated shipping cases, or other suitable stiff cardboard can be used.

Cut the disks approximately 10-in. in diameter. The center hole should fit the take-up roll. Next, if needed, slit the disk from the outside edge to the center hole so that it can be slipped around the take-up roll.



Cardboard need not be slit for cloth rolls that can be removed.

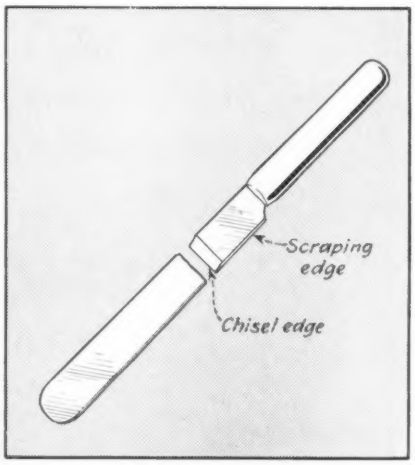
Gummed paper is suitable to cover the slit in the disk to bind the cut together. It is not necessary to cut a slit in a disk for a loom that has a removable take-up roll.

When weaving extra-wide cloth that utilizes the full width of the take-up drum and roll, the take-up gears are so close to the cloth that grease and oil stains gradually stain the cloth along the selvages. With the cardboard as a protection on the ends of take-up roll, grease and oil stains are prevented. *(K-266)*

Knife Converted Into Race-Plate Scraper Tool

One of our floor boys recently made an excellent race-plate scraper from an ordinary kitchen knife, as shown in the illustration. It proved to be an excellent tool for removing glue and other foreign matter such as is found after race-plate covering has been removed.

To remove worn race-plate covering, wet it with water. Let it soak a few minutes after which the cloth can be



Side edge is used for scraping; front, for chiseling.

Fybrolize-and Stop Static!

IF static is complicating your mill procedure and hindering your production schedules, it will pay you to Fybrolize.

By using Fybrol processing oils, static, with all its troublesome and costly effects, is prevented. The anti-static property of Fybrol processing oils is laboratory-controlled to assure its retention and proper functioning throughout every stage of production.

Fybrol stays with the fibre and provides maximum lubricity throughout the run. As a result, spinning yields are increased, greater tensile strength is obtained, fly waste is substantially reduced and scouring is simplified.

Helping you to solve the problem of static is only one of the many ways a Sonneborn technical representative can assist you. Write or wire for this service today. No obligation, of course.

There is a specific type of Fybrol available for the processing of every kind of wool and worsted knitting and weaving yarn.

TEXTILE CHEMICALS DIVISION

L. SONNEBORN SONS, Inc. • 88 LEXINGTON AVE., N. Y. 16, N. Y.

Plant and Laboratories: NUTLEY, N. J. • *Refineries:* PETROLIA and FRANKLIN, PA.

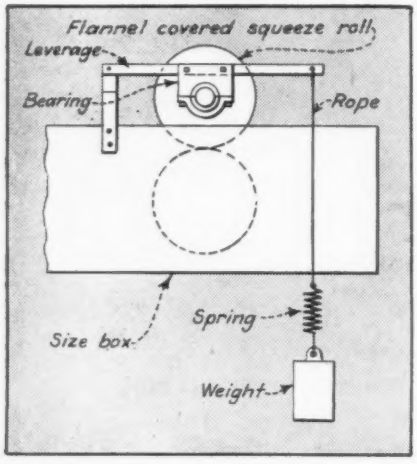
Fybrol

WOOL and WORSTED Processing Oils

KINKS & SHORT-CUTS

(Continued from page 180)

pulled off. Any old glue remaining is usually soft enough to scrape off with the side edge of the knife. Occasionally, bits of glue resist the scraper and must be removed by the chisel made on the end. (K-283)



Spring is placed between weight and arm to stop jumping.

Spring Stops Jumping Of Slasher-Roll Lever

When extra pressure is applied to the squeeze roll in the size box of a cotton slasher, a leverage bar normally is used. Often the weight applied to the bar has a tendency to jump, especially at the lap of the roll cover. This jumping often results in a size mark.

The use of a spring between bar and the weight, as shown in the illustration, should eliminate this trouble. It also often prevents the rope from breaking. (K-260)

Gage Can Prevent Use of Wrong Beam Width

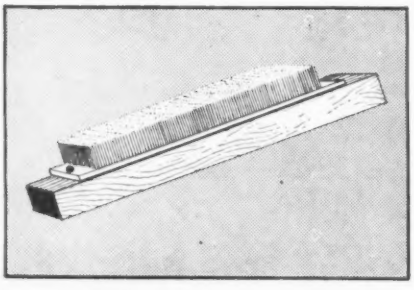
The rod shown in the sketch is a device for measuring the width of warps between heads. It has proved to be a big time-saver. As we run several different loom-beam widths, we may have a run of 50 warps on one width and then change to a wider or narrower width. In order to secure the desired width—in accordance with the warp yarn, reed width, and weave—and to save time, the device shown was resorted to.

Using a ⅜-in. rod, we weld a piece 1 in. from the end and place a sliding gage on the opposite end.

The sliding gage is made from a short length of steel with two holes drilled as shown. The side hole fits around the measuring rod, the end hole is tapped for a wing screw. Various measurements are marked on the rod. When using the rod, we merely slide the gage to whatever setting is desired and use it to check the loom beam to be run. (K-192)

Rasp and File Cleaner Made From Card Clothing

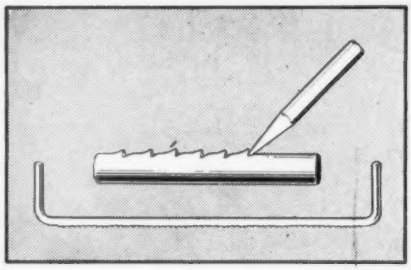
A strip of card clothing nailed to a block of wood approximately 6-in. long and 2-in. wide makes an excellent tool for cleaning wood rasps and metal files. Old card clothing is quite satisfactory. (K-253)



Old card clothing has many uses.

Special Rasp Cuts Groove in Shuttles

To make a rasp for cutting (or cleaning) filling grooves in shuttles, take an 18-in. piece of ⅜-in. iron rod and bend 3 in. of each end at an angle to form handles as shown. Cut the teeth with a sharp chisel while the rod is held firmly in a vise. Place the chisel at an angle (approximately 45°), and tap it sharply with a hammer. The burr thus formed makes a smooth, keen cutting edge for making the front filling grooves on shuttles. This rasp is much faster and easier to use than a rat-tail file. (K-254)



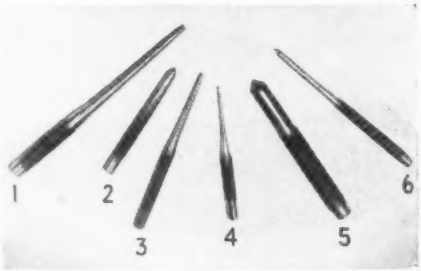
Chisel-burr rasp is superior to file for some uses.

Files Make Punches For Textile Fixers

Old round files can be used to make an excellent set of punches, including center and prick punches, pin and line-up punches, and various other types used around the textile mill.

When grinding the files to make punches, be careful to keep from overheating the steel to that bluish color which softens the metal. After all heavy grinding on the point is done and shape obtained, polish and complete the job on a sandpaper disc. The set of six punches shown required approximately two evenings of spare time to make. The complete set consists of:

No. 1. ½ in. x 7¼ in.
No. 2. ⅜ in. x 4 in.
No. 3. ⅜ in. x 5½ in.
No. 4. ⅜ in. x 4½ in.
No. 5. ⅝ in. x 5¼ in.
No. 6. ⅜ in. x 5¾ in.



No. 1. Line-up punch for drawing two holes in line. Also used as pin punch in hard-to-reach places.

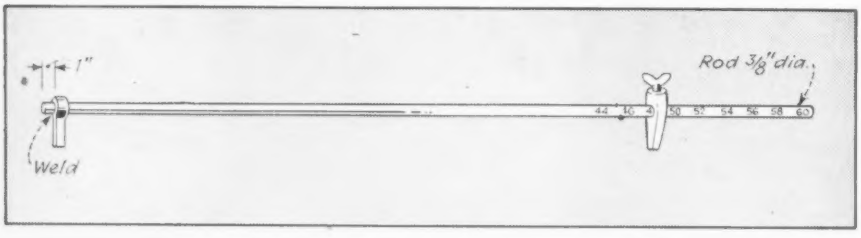
No. 2. Light center punch for lighter work. Used on round or flat stock for starting drill hole where drills have a tendency to creep.

No. 3. Can be used to punch out spindle screws and eye screws from shuttles. Also comes in handy as smaller-size drift punch for various purposes.

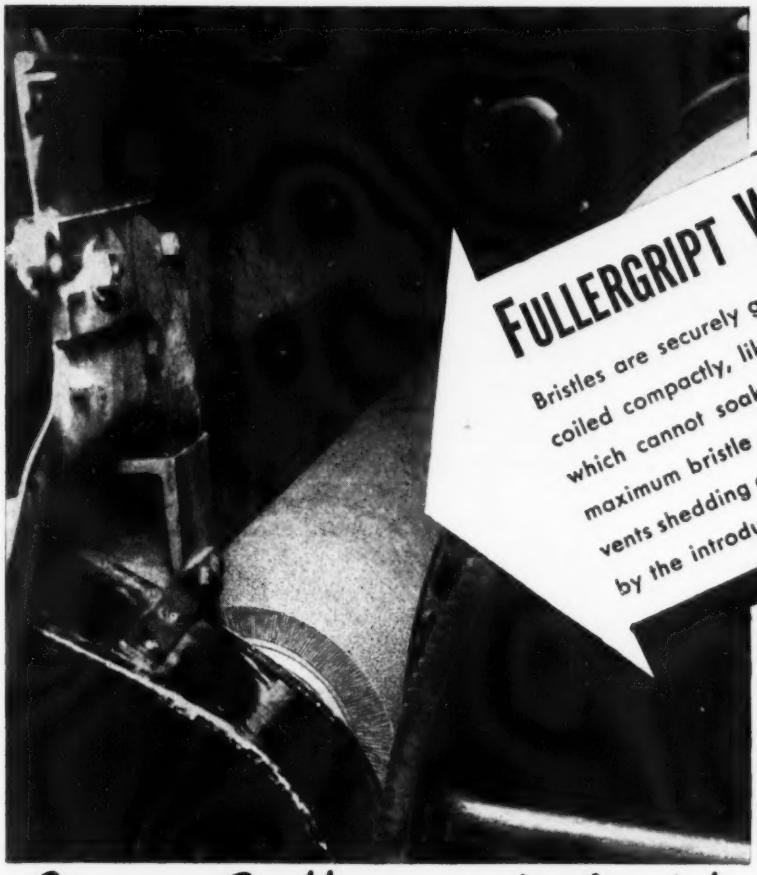
No. 4. Fine pin-punch used by fixers in driving in shuttle pins.

No. 5. Heavy center-punch.

No. 6. Prick punch is a very useful tool. Can be used as scratch tool. (K-239)



One gage can be used for measuring beams of all widths.



FULLERGRIPT WORSTED-CARD BRUSHES

Bristles are securely gript in rust resisting metal. This strip is then coiled compactly, like fillet card clothing, around a metal core, which cannot soak up oil, crack or split. This construction gives maximum bristle density, longest life and lowest cost; it also prevents shedding of bristles and the consequent ruining of good stock by the introduction of highly objectionable "foreign matter."

Again Fullergript Textile Brushes do a Better Job at Lower cost!

Here is a new success story — to add to the ones on Fullergript cotton-card brushes, Fullergript thread-dresser brushes, Fullergript dabbing brushes and other Fullergript textile brushes.

FULLERGRIPT WORSTED-CARD BRUSHES

contribute to this impressive demonstration. Its tightly packed bristles push the wool — all the wool — down into the pins of the Morel clothing, leaving the burrs on top of the pins, free of fiber, ready for easy removal.

Fullergript brushes are proving helpful in three ways on worsted cards — as feed-roll brushes to start the wool properly in the teeth of the first lickerin, as Morel brushes to disentangle the burrs from the wool, and as Morel transfer brushes to carry the wool to the Morel roll and disentangle the burrs at the same time.

In all these applications the great density of the Fullergript bristles insures that the wool will be pushed into the clothing — not back into the brush! This means the brushes will not clog up rapidly, lose their efficiency and require cleaning — always a difficult, time-consuming job.

YES, its a new success story. Do you want to hear the others — on cotton-card brushes, for example? If so, write us and we'll gladly relate them to you.

Do You Want To Remove Burrs?

Look at the quantities pouring out of this worsted-card in a prominent New England combing plant.

FULLERGRIPT — *better work at lower cost*

The FULLER BRUSH Company

INDUSTRIAL DIVISION, DEPT. 8C

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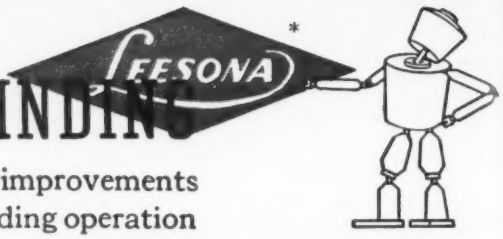
THIS IS NO. 49 OF A SERIES ON

GETTING THE MOST FROM WINDING



Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

PROPER SETTING OF BREAKAGE LEVER TO PREVENT WEAR (Roto-Coner*)

The Counterbalancing Clamps make it easy to adjust the Breakage Lever correctly so that the cone will lift promptly when a break in the yarn occurs.

All that is necessary to do is to loosen the Clamps; then with the left forearm holding down the Starting Lever, the left hand is free to bring the Breakage Lever down close to, but not quite touching, the back of the Tension Bracket. The right hand can then tighten the Clamps. The Clamps have slots which permit a delicate adjustment of balance of the Lever.

However, it sometimes happens that an incorrect setting is made, and this leads to excessive wear on parts inside the frame which are invisible until the cover has been removed.

If the Breakage Lever is not properly balanced so as to rise promptly when the end runs out or breaks, the end of the Pawl 44-19-3X (A in Fig. 1) will not drop quickly enough to contact the Link 44-12 (B in Fig. 1). The Link will then over-ride the rounded end of the Pawl, and there will be unnecessary wear on one part or the other or both, requiring possible replacement.

Wear on the Pawl may also occur if the Trip Lever 44-22X (C in Fig. 1) should become bent or is not in proper adjustment, in which case it will not permit the Pawl to drop to its full depth when an end runs out or breaks, thereby allowing the Link to over-ride the rounded end.

MacCOLL SLUB CATCHER CLAMP

An improved Clamp 44-473-2X (A in Fig. 2) has superseded the old-style Clip 44-473 for use in setting the MacColl Slub Catcher with a feeler gauge.

This new Clamp compensates for certain allowable variations in the dimensions of the Slub Catcher Holder (B in Fig. 2), and rigidly holds the Slub Catcher in position when the setting is being made.

To use the Clamp, it is necessary only to hook it under the Thread Rod (C in Fig. 2) and tighten the round nut against the top edge of the Holder. This nut has a *smooth* outside edge, rather than knurled, so that it cannot be set too tight against the Holder. The threaded end of the Clamp is upset so that the nut will not come off.

The Clamp is durably made and is conveniently sized to be carried in a vest pocket.

CLEAN WINDING MACHINES

Here is the comment of one of Universal's representatives whose duties take him frequently into various mills in North America:

"When I go into many mills today, I find the machines reeking in oil and lint."

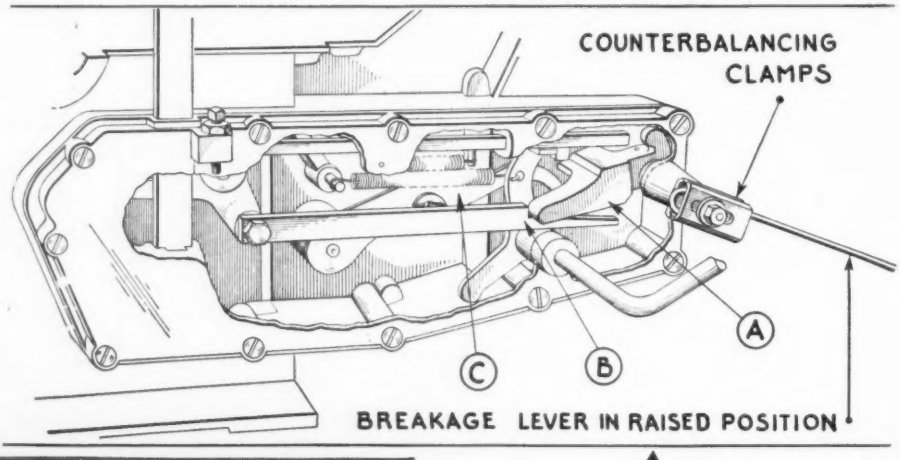
The winding machines in your mill cannot do the job of which they are capable if they are dirty. Quality of the work is often spoiled; production suffers; and maintenance expense goes up. Dirty machines are unpleasant and unsanitary for operators.

The Universal Winding Company has prepared three booklets intended to make the proper care of your winding machines as easy as possible. Included in these are recommendations for cleaning. Many mills have told us how valuable these booklets have been to them in simplifying maintenance, and helping them to get the most from winding. If you do not have these booklets, write us, today.

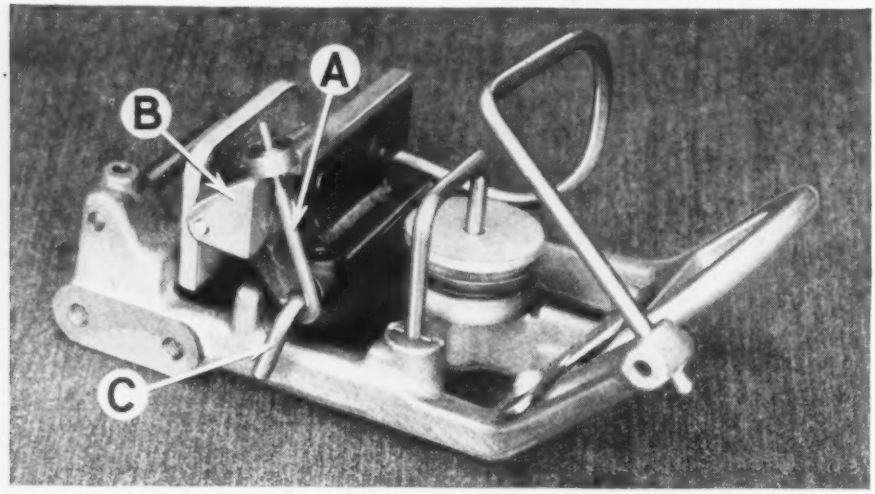
No. 50: "Keep Your 50 Physically Fit"

No. 90: "Helping Your 90 Keep Well and Strong"

Roto-Coner*: "How to Keep Your Roto-Coners* Healthy and Happy"



↑ FIG. 1



◄— FIG. 2

UNIVERSAL CATALOG IN TEXTILE WORLD YEARBOOK

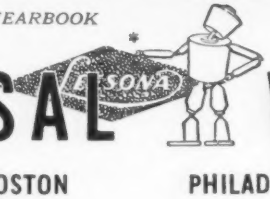
The 1945 edition of TEXTILE WORLD YEARBOOK carries 10 pages of information on Universal Winding Machines and parts. The main purpose of this catalog is to illustrate the flexibility of Universal Machines and to show how your present machine can often be easily adapted to new winding requirements.

We recommend that you inspect this catalog to make sure you are up-to-date on latest Universal equipment, and also that you refer to it for information when in need of new machines or whenever your requirments change.

* Reg. U. S. Pat. Off.

See our Catalog in TEXTILE WORLD YEARBOOK 23.4.4

"THERE'S A UNIVERSAL WINDER FOR EVERY TEXTILE NEED"



UNIVERSAL WINDING COMPANY

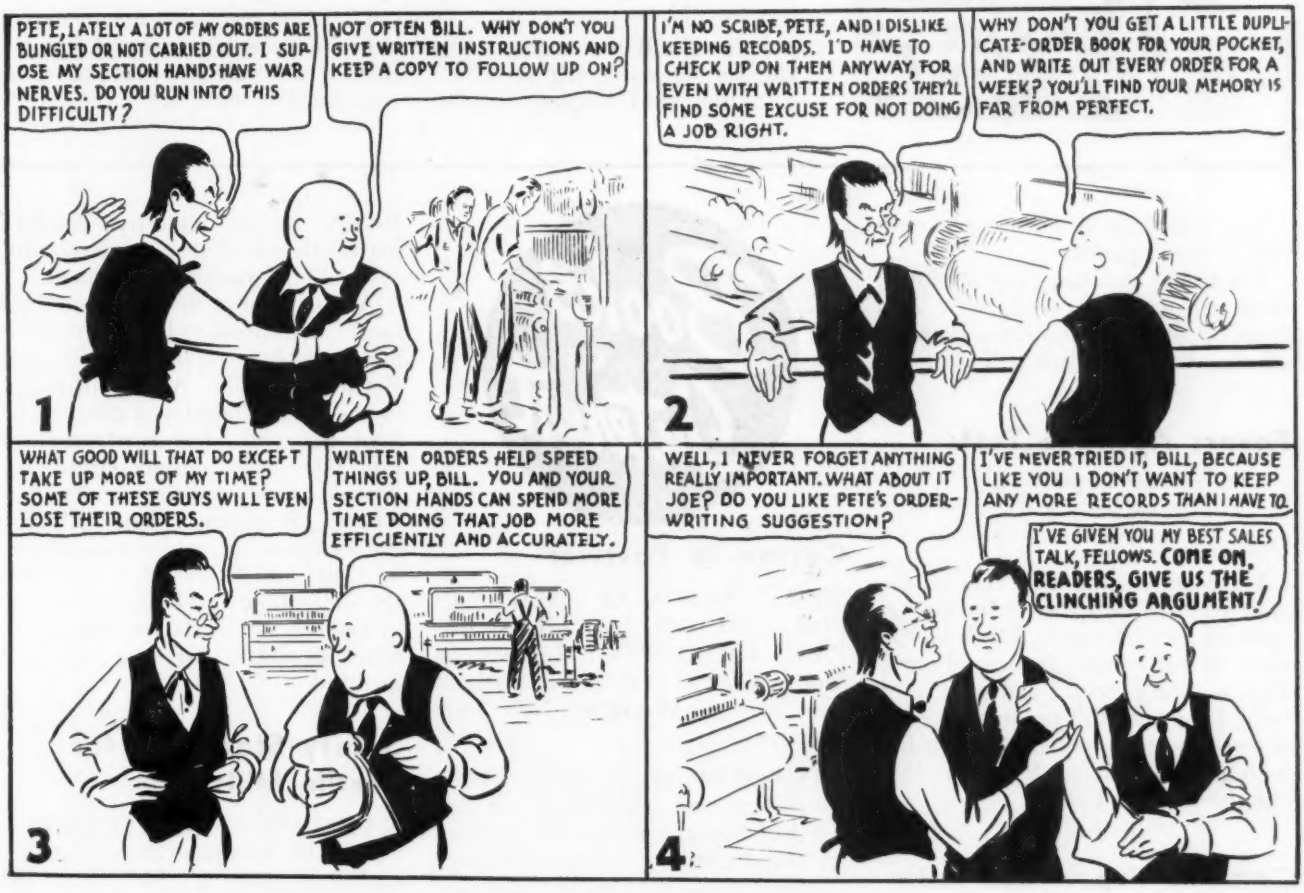
PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA

LETTERS to Pete & Bill, discussing material in this department, are paid for when published. Suggestions for the Pete & Bill dialogue will also be paid for if used. If these pages interest you, contribute something to interest others. Address PETE & BILL, Textile World, 330 West 42nd St., New York 18, N. Y.

Pete & Bill

WRITTEN VS. ORAL INSTRUCTIONS

Should overseers depend on oral instructions or should they give all instructions in writing?


PETE, LATELY A LOT OF MY ORDERS ARE BUNGLED OR NOT CARRIED OUT. I SUPPOSE MY SECTION HANDS HAVE WAR NERVES. DO YOU RUN INTO THIS DIFFICULTY?
NOT OFTEN BILL. WHY DON'T YOU GIVE WRITTEN INSTRUCTIONS AND KEEP A COPY TO FOLLOW UP ON?
1
I'M NO SCRIBE, PETE, AND I DISLIKE KEEPING RECORDS. I'D HAVE TO CHECK UP ON THEM ANYWAY, FOR EVEN WITH WRITTEN ORDERS THEY'LL FIND SOME EXCUSE FOR NOT DOING A JOB RIGHT.
WHY DON'T YOU GET A LITTLE DUPLICATE-ORDER BOOK FOR YOUR POCKET, AND WRITE OUT EVERY ORDER FOR A WEEK? YOU'LL FIND YOUR MEMORY IS FAR FROM PERFECT.
2
WHAT GOOD WILL THAT DO EXCEPT TAKE UP MORE OF MY TIME? SOME OF THESE GUYS WILL EVEN LOSE THEIR ORDERS.
WRITTEN ORDERS HELP SPEED THINGS UP, BILL. YOU AND YOUR SECTION HANDS CAN SPEND MORE TIME DOING THAT JOB MORE EFFICIENTLY AND ACCURATELY.
3
WELL, I NEVER FORGET ANYTHING REALLY IMPORTANT. WHAT ABOUT IT JOE? DO YOU LIKE PETE'S ORDER-WRITING SUGGESTION?
I'VE NEVER TRIED IT, BILL, BECAUSE LIKE YOU I DON'T WANT TO KEEP ANY MORE RECORDS THAN I HAVE TO.
I'VE GIVEN YOU MY BEST SALES TALK, FELLOWS. COME ON, READERS, GIVE US THE CLINCHING ARGUMENT!
4

Letters From Readers

For Specialized Maintenance

"The Specialized Maintenance Crew"
(Pete & Bill, Dec., 1944)

Dear Pete & Bill:

In my opinion the specialized maintenance superintendent could perform more efficiently the work of card grinders, section men, fixers, and overhaulers than the regular production overseer. The work, in my judgment, will be far better done than through the production man, who, in most cases, is not so adept and painstaking.

Every plant most certainly should be maintained to the point of producing as much as possible to aid the war effort in its crucial stage. This is the time to make the work more successful through specialized, trained superintendents. *(PB201)*

Working Conditions Do More Than Wages

"Good Working Conditions"
(Pete & Bill, Sept., 1944)

Dear Pete & Bill:

By their negative approach to working conditions, employers too often foster the notion that wage considerations are the primary reason for employee satisfaction in his job. Too preoccupied with the immediate cost-factors of production, employers often overlook the long-time savings they might effect by the addition of a few improvements to the working conditions of their employees.

Experiences of many plants have proved that a worker will weigh attractive working conditions above the few extra dollars he might earn elsewhere. Air-conditioning, in-plant feeding, rest periods, piped music, and other progressive and far-sighted working conditions have done much to improve the morale and efficiency of the individual employee. These improved working conditions have

MEMORIES OF OLD MAN CARELESSNESS—By *Martha B. Pittenger*

No. 25—My Shadow

Maybe the Ground Hog saw his shadow this year, and maybe he didn't. However, I know of one fellow that didn't see his shadow. Why? Because, I was standing so close to him that it was blotted out.

Bob had been sending me invitations before, but this day he sent me a special delivery. Of course, I answered him, since I never disappoint those who really seek me out.

I thought Bob a mighty smart kid, for he was going to school part time and helping on the mill's truck. The truck was about to unload some supplies for the storeroom, when Bob, who was standing between the platform and the truck, motioned the driver to come on back. The rear wheels struck a block of wood. The driver gave a little more gas to surmount the block. As the wheels made the grade, the truck jumped backward and caught Bob's body between it and the platform . . . which crushed him.

I hated to see such a fine young kid come to such a sorry end. Yet, that's what often happens to those who associate with me.

served materially to reduce the quit-rate in many plants.

Far from "coddling" the employee, these progressive measures serve as a form of long-term insurance in plant efficiency and operation. *(PB202)*

Favors Aptitude Tests

"Determining Employee Aptitudes"
(Pete & Bill, Nov., 1944)

Dear Pete & Bill:

I will quite agree with Pete on the principles of employee-selection as aptitude tests have proved truly worthwhile in many plants for several years. The method is sound and worthy of being tried out. Bill needn't regard it as a very new contraption, since it has been given a thorough tryout in other industries. (PB 104)

Combine Experience with Tests for Judgment

"Determining Employee Aptitudes"
(Pete & Bill, Nov., 1944)

Dear Pete & Bill:

I'm all for taking the middle path. I'm firmly convinced that a combination of an overseer's experience and personnel-department tests is the best means of judging the qualifications of a worker. The aptitude test brings to light certain faculties of the worker unknown both to the overseer and to the worker himself, whereas, only the overseer can judge if the individual personality of the worker is suited to that particular job. The aptitude tests complement and confirm the knowledge of the overseer. *(PB203)*

Books of Interest

Cotton in Postwar

SHALL POSTWAR MARKETS FOR COTTON TEXTILES EXPAND OR CONTRACT?; Association of Cotton Textile Merchants of New York, 40 Worth St., New York; 23 pages.

Divided into two parts, this booklet covers facts and statistics on raw cotton and cotton textiles. The section on cotton textiles gives figures to show the inroads which rayon and other synthetics have made in some of cotton's leading markets. With a sound pricing structure, a favorable political environment, and a sound exporting policy, it is stated that cotton will remain a giant among American industries.

Textiles of Brazil

BRAZIL ON THE MARCH, by Morris Llewellyn Cooke; Whittlesey House, 330 West 42nd St., New York 18; 293 pages; $3.00.

The textile industry of Brazil, according to Mr. Cooke, "produces nearly one half of the total value of the industrial output of the country—but judging from American standards, Brazil's largest industry—textiles—needs almost 100% modernization, especially in machine equipment."

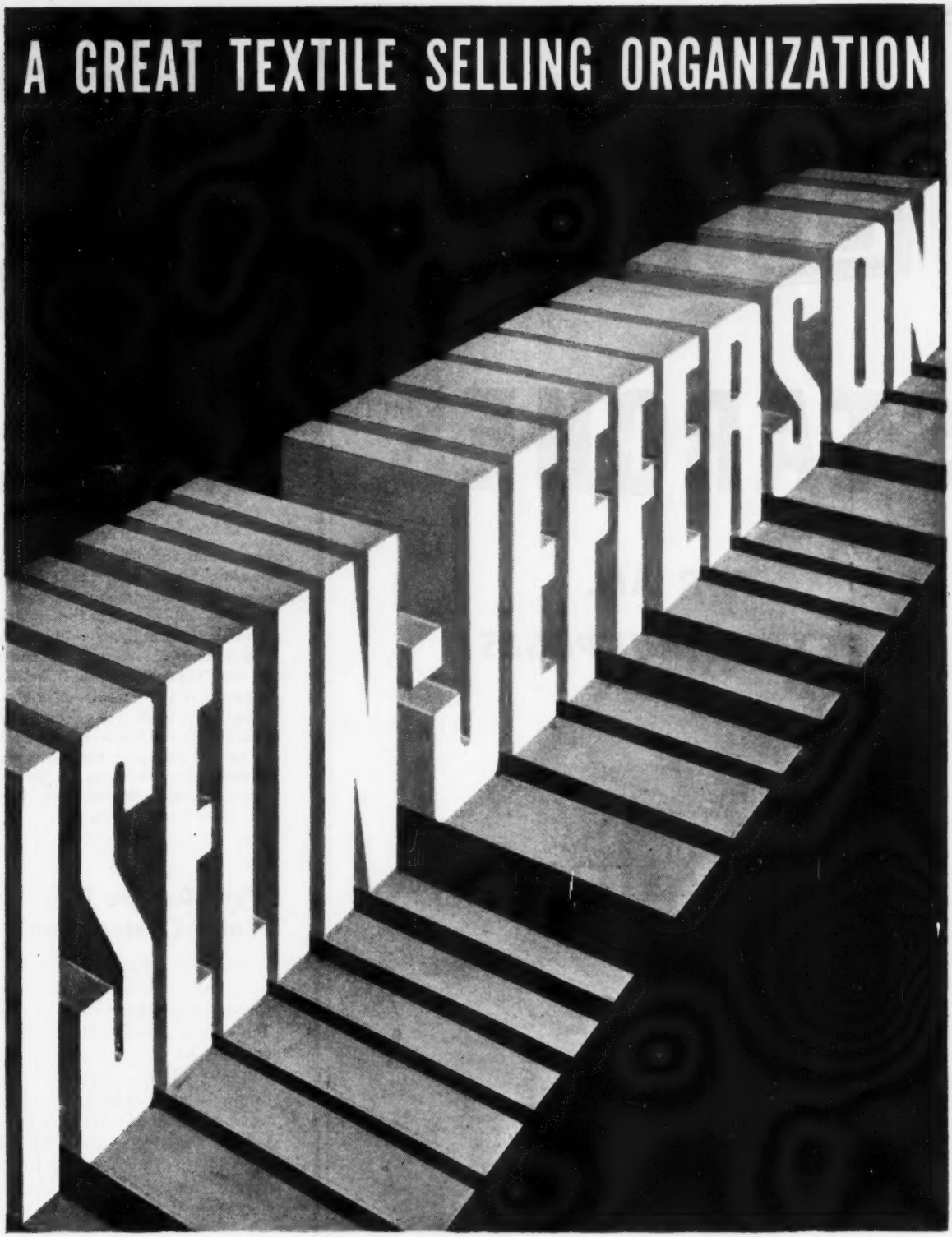
As chairman of the American Technical Commission to Brazil, the author had a first-hand opportunity to study Brazil industrially. A clear-cut analysis of the textile industry is given in this book that will be of assistance to all mill men who consider Brazil as a postwar market for their goods, or as an area for a branch plant. Much of the material on textiles was supplied by Donald K. Woodard, a member of the delegation. Information on some of the other subjects was supplied by other members who were technically qualified.

Safety Standards for Textile Mills

NATIONAL FIRE CODES for Flammable Liquids, Gases, Chemicals and Explosives; NATIONAL FIRE CODES for Extinguishing and Alarm Equipment; Both books published by National Fire Protection Association International, 60 Batterymarch St., Boston, Mass.; 492 pages and 653 pages; $3.00 each.

These two books are part of a series on safety standards intended to serve as manuals on protective measures against fires and explosions. The first book gives a suggested ordinance regulating the use, handling, and storage of flammable liquids such as are used in many of the solvent processes and for coating fabrics.

The second book covers automatic sprinklers and the water supply, extinguishers and hose, special extinguishing systems, private fire brigade, etc.



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STARCHES

FOR ALL
TEXTILE PURPOSES

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QUALITY
AND
SERVICE

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CLINTON
COMPANY
CLINTON, IOWA

Round Table

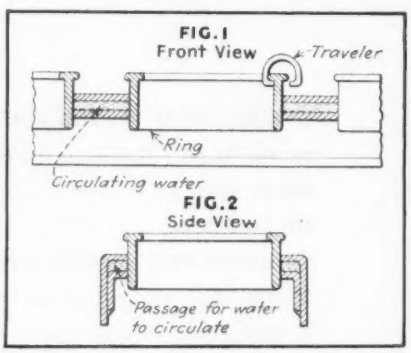
FOR EXCHANGE OF IDEAS

The Round Table is designed to supply a meeting place where mill men can discuss problems among themselves. It is open to all readers for discussion of subjects relating to mill management and operation. Names of contributors to the Round Table will be held confidential if so requested, but sign contributions with your real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table, Textile World, 330 West 42nd St., New York 18, N. Y.

What Do You Think of This Water-Cooled Ring?

Friction between a traveler and a ring, particularly when running heavy yarns, generates considerable heat. This heat either causes the ring or traveler to wear excessively or necessitates a lower spindle speed than might otherwise be run.

To counteract this destructive heat, I have conceived the idea of water-cooling the ring (patent for which is applied for); but I thought readers of TEXTILE WORLD might be interested



These cut-away views show how water or another coolant would completely encircle the ring.

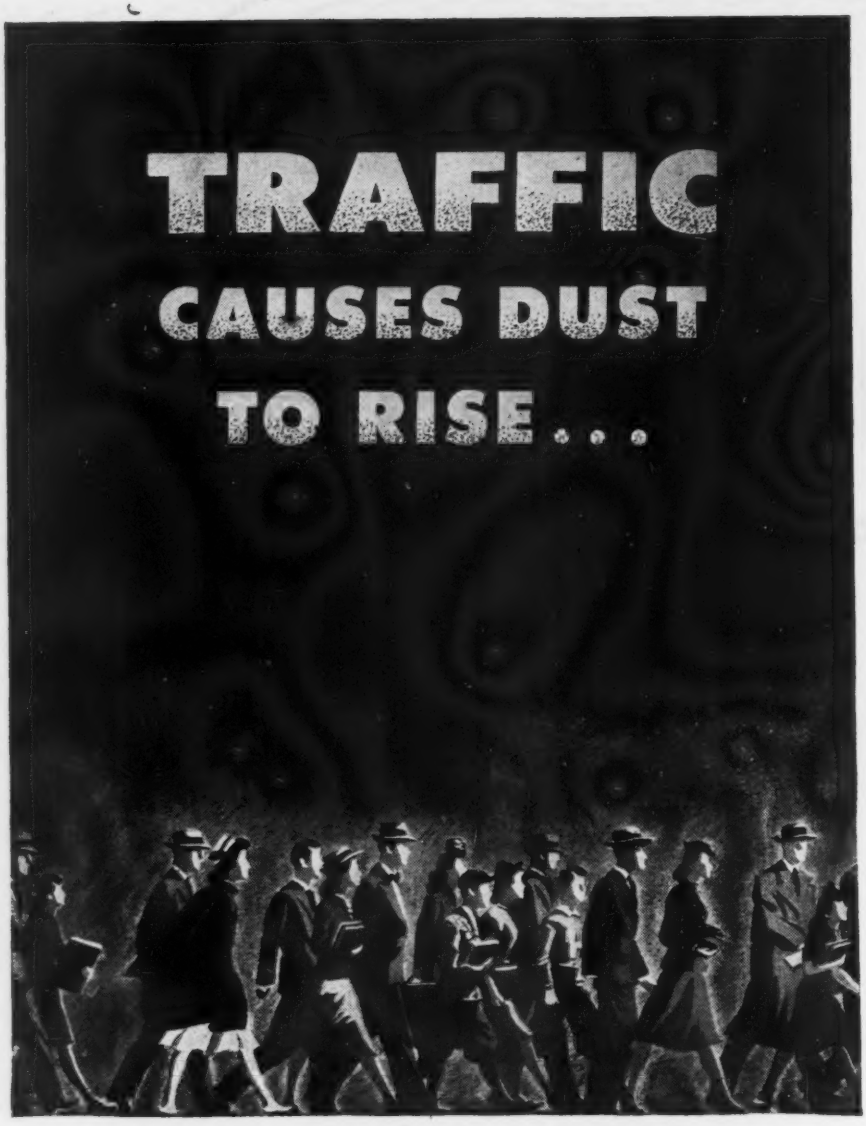
QUALITY FINISHING

FOR QUALITY GREY GOODS

Good finishing is always important to the mill, whether it sells in the grey or converts its own production. It is particularly important today in view of the rigid finishing specifications established for both military and civilian goods.

CRANSTON

Specialists in fine processing
Since 1825



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FLOOR TREATMENT

CONTROLS DUST

Westone, the chemical floor treatment in liquid form simplifies floor maintenance problems. It continuously improves floor appearance, penetrates rapidly and evenly and *actually seems to become part of the floor material itself.* Westone controls dust in room atmosphere because the presence of dust in room atmosphere is due not so much to open windows as it is to floor traffic. The problem is to *keep the dust from rising.* Westone has, in addition to its other properties, a peculiar *affinity for dust* and when properly used to maintain a floor, the atmosphere will be comparatively free from it because foot traffic will not cause the dust to rise. Westone is very economical to use.

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in a development such as this and I would appreciate comments as to whether they feel this idea is sound.

I believe that water-cooled rings would also be suitable for increasing spindle speeds on fine yarns, if I am correct in the assumption that wear or heat is a limiting factor of speed. *(R-111)* William J. Shore, Consulting Engineer.

Filagen Suggested As Generic Textile Term

In view of the interest in establishing a suitable name for all synthesized and regenerated filaments, I should like to submit the name "Filagen".

The derivation of Filagen becomes evident upon dividing it into its syllables, "fila" from "filament", and "gen" from "generated". The word "generate" is sufficiently broad to include both synthesized and regenerated filaments.

Since Filagen is a short, euphonious word, which has concrete and familiar connotations, it should be readily acceptable.

It is requested that consideration be given to the adoption of Filagen as an appropriate term.

The word Filagen is one which I have originated and suggested, as a result of the current interest in establishing a suitable name for all the synthetic fibers.

Since the proper choice of word has been a bone of contention for so long, it seems desirable that an entirely new word, devoid of old connotations and prejudices, be considered. Filagen, a simple, all inclusive term whose definition is apparent at once, seems to be a possible solution to the problem of a universally acceptable name. *(R-113)* Leah Sadovnick.

Some Rubber Coatings Expected to be Replaced

In the January Round Table, R-106 asked pertinent questions in regard to plastic coatings that might permanently replace rubber coatings. The first question was whether or not fabricators are positive that the market for rubberized fabric will be definitely affected. Can anyone be positive about this? The Rubber Proofers Division of the Rubber Manufacturers Association has recently reorganized to become the Coated Materials Division, independent but associated with the Rubber Manufacturers Association. It appears that the main reason for this reorganization was because of the increased importance of materials other than rubber in competition with it.

SWITCH TO

AlSiMag

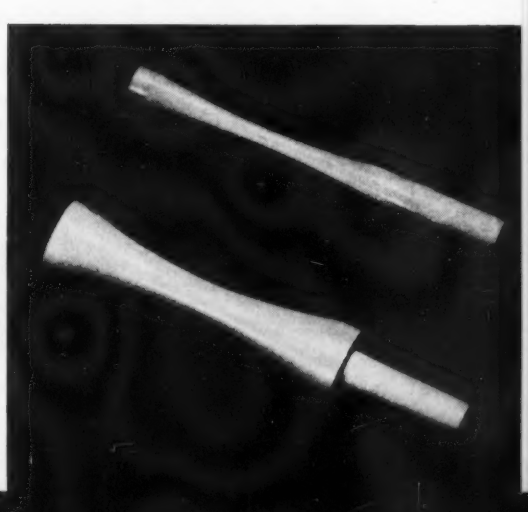
PATENTED THREAD GUIDES

T'S FULL SPEED AHEAD when you switch to AlSiMag 192 Thread Guides. No sidetracking of production to replace rn out guides. AlSiMag guides have no surface glaze to cut rough. These precision-made guides are *highly polished*, and finish is maintained by thread action, since AlSiMag is same material from surface to core. Switch to AlSiMag—your production on the main line—full speed ahead!

Write today for bulletin, "Facts About AlSiMag 192 ented Thread Guides," for detailed information and physi- characteristics.

THE SURFACE FINISH NEVER WEARS THROUGH—

because AlSiMag is the same material from surface to core—and thread action maintains the original *highly polished (not glazed)* finish.



ARMY E NAVY

AMERICAN LAVA CORPORATION

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ALCO has been awarded for the fifth time the Army-Navy "E" Award for "continued excellence in quantity and quality of essential war production."

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HANDLING—the Common Denominator of PRODUCTION

LET MEN DIRECT POWER—NOT GENERATE IT!

Handling Materials—most common of all production operations—is the key to better plant, dock and terminal performance. Handling starts with the raw materials, follows on through all phases of production and distribution, never stopping until the finished product is delivered to final destination.

Versatile Towmotor—*the one-man-gang*—provides you with a handling system that assures full benefits from other new and modern machinery. Towmotor capably performs hundreds of important handling operations. Save time, manpower, money—*write today* for the Towmotor DATA FILE . . . it gives you the complete story.

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TOWMOTOR

THE ONE-MAN-GANG

It is the general opinion among coaters that, assuming a favorable cost comparison, much coating done with rubber before the war will be switched to other synthetic materials. And what is more important, the properties of the synthetic plastics enable their use where rubber was never satisfactory, thus opening up new vistas for the sale of coated fabrics.

Question No. 2 asked what classes of products are likely to be affected. It appears that raincoat materials and hospital sheeting should be affected. Since some of the vinyls have a higher flex resistance than natural rubber, their present use in shoes might be increased or at least continued. It is also well known that they weather much better than rubber; therefore, they should replace rubber-coated fabrics for outside application.

Question No. 3 asks if there are any types of coated fabrics in which rubber will be retained as the perfect coating. The answer is, "Yes, many types." It may even be true that the volume of rubber used in coating will not greatly decrease, but rather the new materials will open up such a potentially great new market that the whole coating industry will benefit.

The fourth question has to do with evidence of new or marked changes in the methods of applying rubber coatings. It is my opinion that there need be no appreciable changes in coating equipment.

The foregoing answers generally express the opinions held both by the men who coated with rubber before the war and also by those who used pyroxylin and now expect to compete by using plastics in many places where hitherto rubber only has been used. —*(R-112)*

A Small Mill Can Employ Specialized Maintenance

The inquiry on specialized maintenance in the small mill *(R-99)* is right up to a point in saying that specialization is defeated if the maintenance specialist is given too many jobs to do. The whole thing is based on the number and size of jobs to be performed and whether there is enough work on one job to keep one man busy full time or not.

The only difference in specialized maintenance in the large mill and in the small mill is that in the large mill specialized maintenance can be carried to a greater degree, because if a man is taking care of a job like belts and pulleys he will have enough to keep him working at top speed full time.

(Continued on page 194)

SAYLERIZED
REG. U. S. PAT. OFF.
PERMANENT FINISH
fabric

Cotton Dress Goods

Lawns – Muslins – Batistes – Dimities
Organdies – Plisses – Percales
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The unique beauty and highly desirable qualities of fine cotton fabrics are accentuated and made permanent by the Saylerized Finish.

SAYLERIZED fabrics are starchless — will not lint, fuzz or become limp and lifeless.

SAYLERIZED fabrics resist soiling — which means that the wear and tear of excessive laundering is eliminated.

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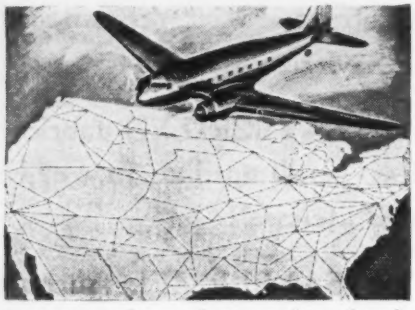
SPECIAL PICK-UP and delivery of shipments at both ends, with speed of flight in between! The great economy of Air Express must be figured in terms of *time*. When time means money, Air Express saves both.



THOUSANDS of manufacturers have found that Air Express usually saves many times over its cost. (Any item anywhere in the nation is yours in a matter of hours, so long as the shipment fits in a plane.)

Specify Air Express—Low Cost for High Speed

25 lbs., for instance, travels more than 500 miles for $4.38, more than 1,000 miles for $8.75, more than 2,000 miles for $17.50, at a speed of three miles a minute—with cost including special pick-up and delivery in all U. S. cities and principal towns. (Often same-day delivery between airport towns and cities.) Direct service to scores of foreign countries. Rapid air-rail service to 23,000 off-airline points in the United States.

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In the smaller mill this is not true because of the fewer number of frames involved. He will have to be given at least one other job to fill in his time. This of course does not make him less efficient because in the production department he would probably care for other things in addition as they arose, and, therefore, he could not be as efficient as he would in doing one or two specialized jobs.

Of course, if it comes to the point where a man is given four or five different jobs to do, he can not hope to be highly efficient on all of them; and this is where the trouble would arise in a small mill. If the specialist does not try to specialize in too many things, the specialized maintenance program can work just as well as in the large mill. *(R-103)*

Fire-Fighting Booklet Reply to R. T. Question

On page 154 of your October issue, I note some provocative questions on combatting the risk of textile fires. The last of these questions touches the advisability of having a regular plant fire-fighting force. Walter Kidde & Co., fire control engineers, have prepared a booklet entitled "How to Teach Fire Fighting," giving simple and specific directions for staging practical demonstrations with various kinds of fires and using all types of first aid extinguishers. Your readers may find this booklet useful. *(R-102)*

Warp Stop Motion Merits More Credit, Says Weaver

On page 168 of the September issue of TEXTILE WORLD was illustrated the prize-winning kink of the month. My congratulations to the winner. The warp stop motion with its automatic drop-wires has been of particular interest to me.

During the early years of these automatic attachments to the regular plain loom, this particular motion had rather hard sledding. This goes back to the early nineties when, among others, I was one of the causes for this.

In giving thought to this device, we, in our thinking, did not go far enough. We did not think it necessary to stop the loom for every thread that broke—a broken thread in itself was no imperfection, so why stop the loom? But one broken thread if not given immediate attention may soon mean many more and a serious imperfection.

We finally came to a point where

Photo by Ewing Galloway

HE CAN'T QUIT

And neither can the industries that keep him supplied with all of the essentials of a winning war. Until he lays down his gun, he's our first responsibility.

SOUTHEASTERN COTTONS, INC.

58 WORTH STREET, NEW YORK 13, N. Y.

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ARE YOU MAKING POST WAR PLANS?

Our NEW CATALOG contains full information on Braiding and Braiding Machines.

Specialists in braiding equipment for the past ninety years.

We manufacture a complete line to meet your requirements.

We also manufacture machines for the textile finishing industry.

NEW ENGLAND BUTT COMPANY

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we had several hundred looms running a fabric in which a thread missing for ½ in. or more was an imperfection. This turned our thoughts once more to the warp stop motion, and a more thorough investigation was given to it.

On this particular cloth, six looms was a weaver's set for looms running 166 p.p.m. We took one set and equipped it with stop motions. To give them a fair show, as the looms were being called upon to do more than usual, we reduced the speed to 156 p.p.m.

At the end of six months, we found that the weaver had earned better than $1.00 per week more than she had averagd the previous six months; and the cloth woven was of a better average quality. This made it quite clear that our thinking about the warp stop motion had been of rather low quality. The looms were all equipped, and 166 p.p.m. became the regular speed.

The drop-wires were not of the regulation type; they were wires which could be placed between the lease rods. For our fine yarns we were satisfied that the drop-wires were never intended to open the warp threads. We also came to the conclusion that although it could be done, weaving should not be undertaken without at least one rod between the whiproll and the drop-wires. This would at least separate the threads to some extent.

In July issue of TEXTILE WORLD there was another reference to the drop-wire situation. This reminded me of one of the earlier difficulties, that of locating a wire that has caused the loom to stop.

The success of the automatic loom of the present day is largely due to the automatic warp stop motion. While this mechanism is not quite so spectacular as the labor-saving, filling-changing mechanism, it has great value as a weaving device.

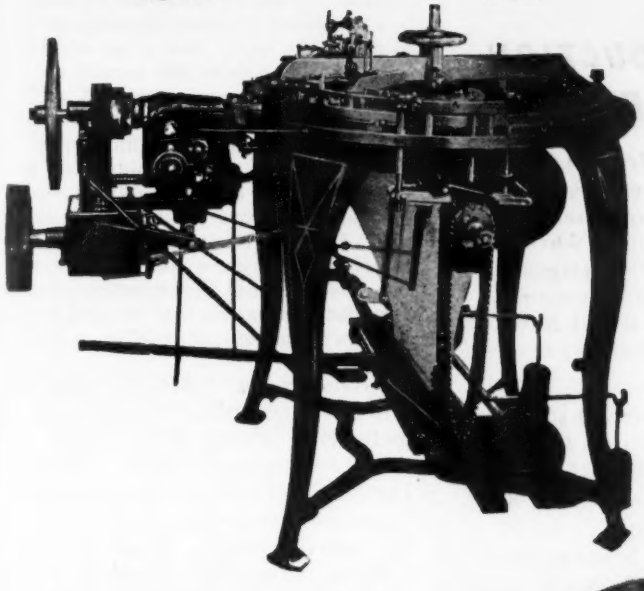
We speak of the automatic, filling-changing loom as the automatic loom. That mechanism is truly a labor-saving device. Yet, the power-driven loom has always been an automatic loom. The necessity for the shuttle automatically to be in a given place at a given time in the movement of the lay is what gave us the power loom. Then came the automatic filling fork which prevented the loom from operating whenever the filling supply was exhausted.

It would seem as though the loom of today is about complete, although the let-off motion is still waiting for some one to make a more flexible mechanism of it. *(R-95)*

LEIGHTON-KNIT SWEATERS *hit the Bull's eye of Popularity*

COARSE STITCH
2½-CUT

FINE STITCH
10-CUT



—because the Leighton Knitting Machine is famous for producing soft-feeling garments from low grade stock (either wool or worsted).

Two features of the Leighton Machine put them in a class of their own for knitting heavy and light yarns without changing the needle cuts. First—the OUTER Dial, and passing over the outside of the cylinder to take up. Second—Drawing a long stitch on a single needle drawing the yarn into stitch formation.

Leighton STITCH-CONTROL for each yarn feed, plus the Leighton method of operating horizontal needles from the outer dial *in toward the center*, reduces strains and bends.

Leighton machines includes the AUTOMATIC Transfer Machine—from jersey to rib to jersey (illustrated)—and the three Needle Selective Rack Three Color Striper.

We build machines in all sizes for fine or coarse gauge.

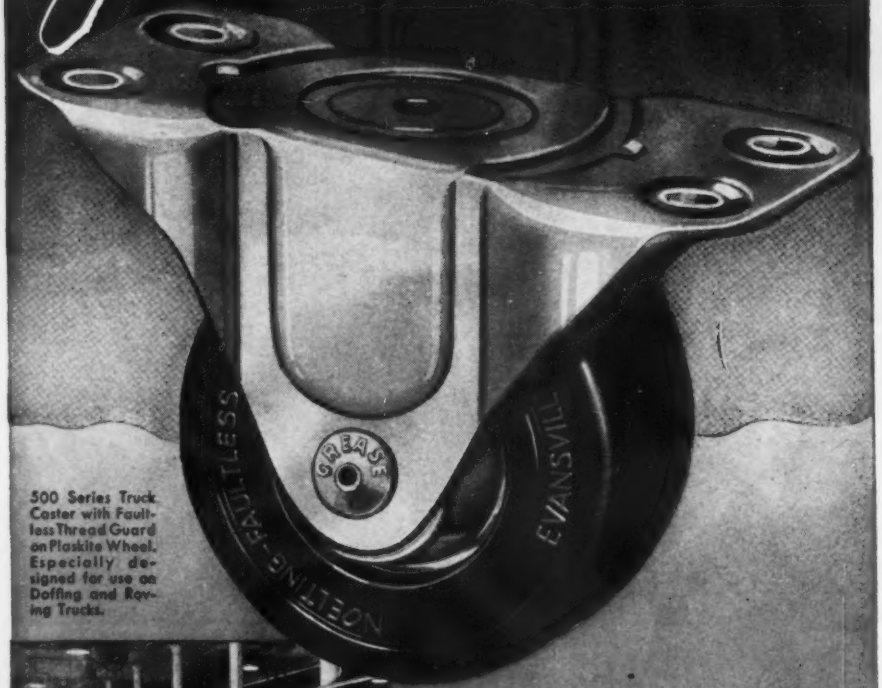
No matter what the yarn or type of stitch desired, a Leighton Knitting Machine will do it better.

LEIGHTON MACHINE COMPANY
ESTABLISHED—1873

LEIGHTON

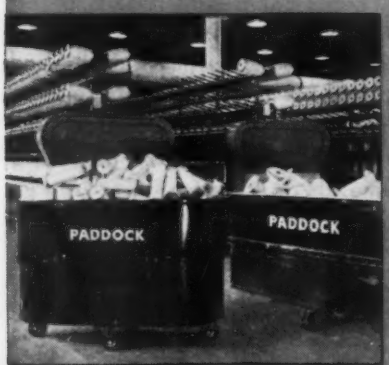
MANCHESTER NEW HAMPSHIRE
INCORPORATED—1894

Faultless
TEXTILE CASTERS



500 Series Truck Caster with Faultless Thread Guard on Plaskite Wheel. Especially designed for use on Doffing and Roving Trucks.

Streamlined Battery Fillers Trucks operate in narrowest of aisles on Faultless Casters. View in Weave Room at prominent mill.



Faultless equipped streamlined trucks in Spinning Room of a leading tire cord maker.

SPEED UP PRODUCTION AT LESS COST PER MILE

For that extra margin of output from machines and manpower, speed up supplies on snag-proof Faultless Casters. Their composition wheels are fitted with especially designed Thread Guards that prevent ravelings wedging around wheel hubs and axles—avoid breakdowns—save cleaning labor.

Faultless Caster frames are interchangeable and fit identical, standardized bolt holes—another substantial labor saver when making replacements.

Plaskite Caster Wheels are easier on floors, do not chip, corrode or mar, are quiet, immune to water and cleaning solutions. So, for that extra margin of mill output, let Faultless Textile Casters carry the load.

Write for Textile Catalog—just off the press.

FAULTLESS CASTER CORPORATION, EVANSVILLE 7, IND. • CANADA: STRATFORD, ONT.

Branches in Boston, New York, Chicago, High Point, St. Louis, Detroit, Los Angeles. In other cities consult your phone directory.

Questions AND Answers

Checking Regain in Cotton Yarn

Technical Editor:

Due to a complete change in the product manufactured, namely, from elastic to non-elastic, we have been able to have a tighter control of our inventory because of the fact that we have purchased yarns against government orders.

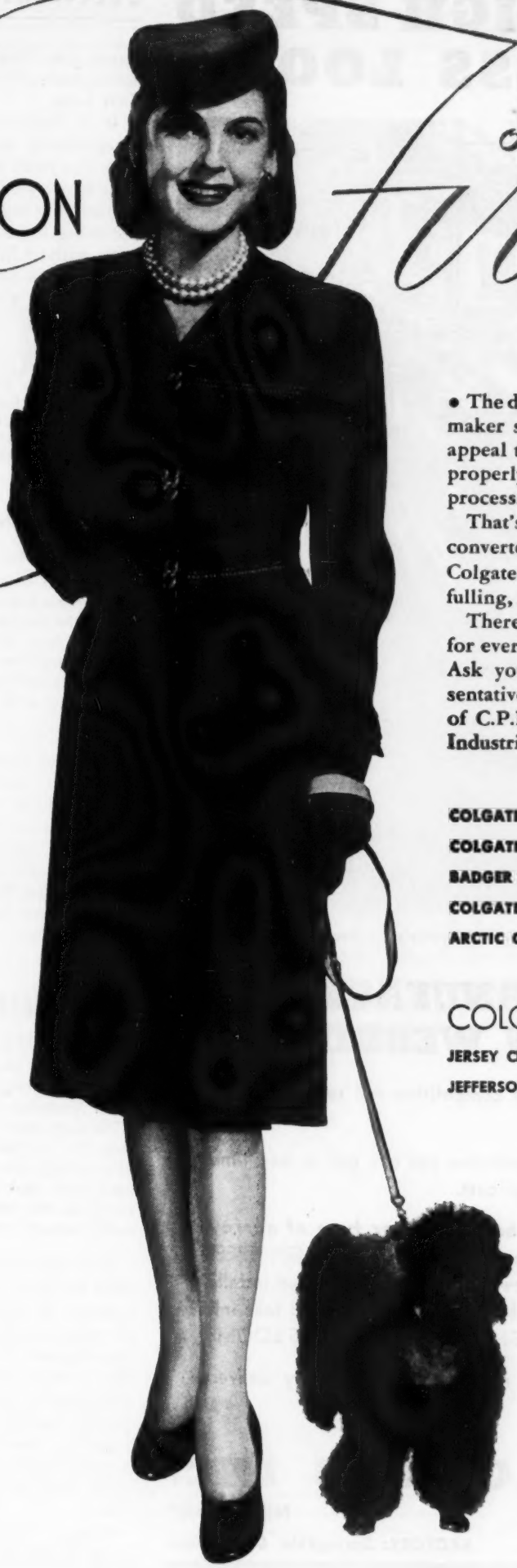
Our trouble is this: We take from our cost sheets the amount of yarn necessary to produce a certain number of yards. We constantly run short of yarn; and in an effort to determine where the shrinkage is, we cannot find any discrepancy in our plant. We have concluded, that the fault lies in the allowable moisture content of the cotton yarn, which we understand to be 8%, and we have made corrections in accordance with this conclusion. We have no method for determining the moisture content. What we would like to know is how we should go about checking the net weight of the cotton yarn as we receive it.

All test methods in this country are set up on a 70° F. temperature and a 65% relative humidity. If a lot of cotton yarn was exposed to this condition until it had absorbed as much moisture as possible under the above conditions, would this yarn then have the maximum allowance of 8%? There is no question that the cotton spinners would see to it that they have their full legal moisture content but what method do they employ to see that they maintain it? (9023)

According to A.S.T.M. standards now in force under standard general methods of testing tolerances of cotton yarn, covered under A.S.T.M. Designation D180-44, the commercial regain for cotton yarn shall be 7% of the oven-dry weight. Hence, if cotton yarn was exposed to a standard atmosphere of 65% relative humidity at 70° F. temperature and left to stand until it could absorb as much moisture as possible, it would obtain a theoretical maximum regain of 7%.

It is quite possible that you may be losing money by issuing a greater amount of yarn than is necessary in order to cover any given order. The only way that this can be overcome is to check the regain of yarn issued but

A FASHION *first*



• The designer who created this charming dress-maker suit could never have achieved the style appeal that sold it unless the material had been properly processed in the first place. Yes, proper processing is a fashion *first!*

That's why so many of America's leading mills, converters, finishers and dyers have turned to Colgate-Palmolive-Peet for high-quality wetting, fulling, scouring and dispersing agents.

There is a C.P.P. soap or synthetic detergent for every fabric—for every processing problem. Ask your local Colgate-Palmolive-Peet representative for detailed information on the full line of C.P.P. processing agents. Or, write to our Industrial Department at Jersey City 2, N. J.

COLGATE KWIKSOLV
COLGATE FORMULA 25
BADGER FLAKES
COLGATE WHITE SOAP FLAKES
ARCTIC CRYSTAL FLAKES

COLGATE-PALMOLIVE-PEET CO.

JERSEY CITY 2, NEW JERSEY **KANSAS CITY 3, KANSAS**
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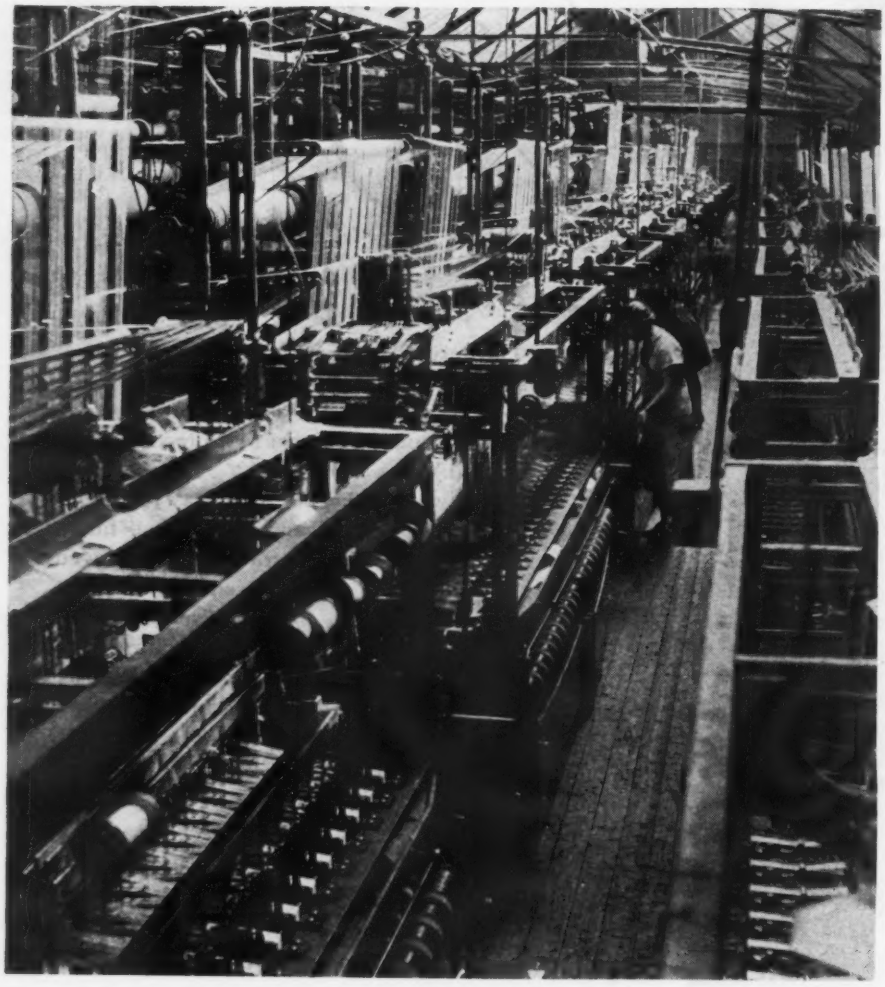
CLUTSOM HIGH SPEED SHUTTLELESS LOOMS



A Battery of Clutsom High Speed Shuttleless Looms

"A WORD TO MANUFACTURERS OF NARROW WEBBING"

This is a sellers market but tough competition will sooner or later come again.

In good times you want all the production you can get, in bad times you must have production at its lowest cost.

More webbing per operator than any other type of narrow fabric looms is the answer in either case. CLUTSOM HIGH SPEED SHUTTLELESS LOOMS are proved low cost producers in varied installations all over the world. Think now of post war prospects and take into account the merits of CLUTSOM HIGH SPEED SHUTTLELESS LOOMS.

We will gladly demonstrate the machine for you. Early delivery assured.

CLUTSOM MACHINES INC.

205 EAST 42 STREET **NEW YORK**

Telephone MUrray Hill 4-2327 **FACTORY: Springdale, Connecticut**

unless you have a conditioning oven and a scale it is impossible to make such tests.

It is highly recommended that a conditioning oven be obtained and tests run from time to time upon the yarn taken from storage so as to determine the regain of the yarn. After obtaining the actual regain in accordance with A.S.T.M. standards, it is then a simple matter, to determine the conditioned weight of the yarn as follows:

$$C = \frac{W \times 100 + R_s}{100 + R}, \text{ when}$$

W = Actual Weight
R = Actual Regain
R_s = Standard Regain
C = Conditioned Weight

Knitted Pile Fabric

Technical Editor:

Will you please tell us what type of knitting machine is used for the manufacture of the enclosed sample of knitted pile fabric? Also, is this fabric cut on the knitting machine or by a shear after it is dyed? Any information you will be able to give us will be greatly appreciated. (9025)

The pile fabric in question appears to be of the nature and construction of that produced on a Brinton machine, although a similar fabric could also be made on equipment built by the Tompkins Brothers.

In making this type of pile fabric, the loops are sheared after the fabric has been knit.

Wool Yield

Technical Editor:

Could you give us an approximation of yield in combing on the Bradford system of an Australian Type 54B wool, which is a 70s warp staple combing fleece with less than 3% of burr. We are interested in determining the percentage of top, noil, card waste and burr waste which should result in the combing of this type wool, under normal conditions. (9028)

It is difficult to state the exact yield with the type wool that you are using because of variable conditions found in combing plants. Accordingly, whatever figures we give must be considered as more or less representative. No two plants combing the same wool will provide exactly the same yield of noil. General combing practice in the United States is to remove from 4 to 12% noil. A good average is about 9%.

Figures representing the approximate proportions of top and noil for

L. F. Dommerich & Company

Executive and General Offices

271 MADISON AVENUE
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For Manufacturers and Merchants

Inquiries as to our services solicited

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ESTABLISHED 1840

CONGRATULATIONS...

ON BOTH YOUR FINE WORK

AND FORESIGHT ON THE PAYROLL SAVINGS PLAN!

IN your wholehearted support of the Payroll Savings Plan, you are doing far more than backing the most valid system of war financing—and building a powerful dam against the onrush of dangerous inflationary dollars.

By encouraging the all-out participation of your employees in this greatest of all savings plans, you are helping to create a sound economy for post war days.

With this same plan, you are assisting working America to build a mainstay against the inroads of unemployment and want—to save for homes, educational advantages and old age comforts!

You and your employees, through *mutual* cooperation in this forward-looking plan, are gaining a new and closer understanding—the cornerstone of a firmer, *mutually* profitable relationship!

National benefits, too, follow the "All Out" effort you are making! The prosperity of our United States rests on the economic stability of both management and labor. Your Payroll Savings Plan is working constructively toward the assurance of both!

The Treasury Department acknowledges with appreciation the publication of this message by

TEXTILE WORLD

★ *This is an official U. S. Treasury advertisement prepared under the auspices of Treasury Department and War Advertising Council* ★

Noble-combed wool, according to English practice, are as follows: The proportions of top and noil in scoured wool will vary from 10 to 1 through a range of 7 to 1.

Percentage of noil from grease wool may range from 5½ to 7½%. Card waste in many instances is less than ½%.

Levers Lace Fabric

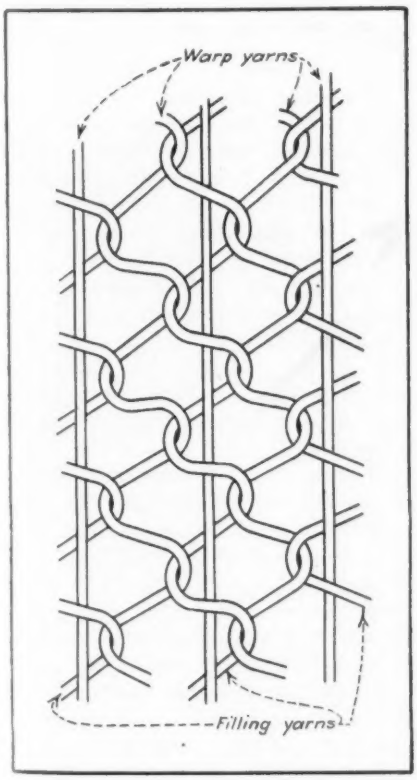
Technical Editor:

I understand that on a Levers lace machine the jacquard is not on top of the lace machine but at the side, with cards that actuate blades. Holes in the cards are of a predetermined gage that extend all across the machine. Instead of the shed being formed, these blades push their threads over to another thread that is not actuated; and a shuttle somehow binds these threads so they form designs.

Will you kindly let me have a diagram of what a pattern looks like on paper. I would like to get an idea how the threads are moved to form the so-called "binding stitch." (9029)

The Levers lace machine was invented in England about the year 1813, by John Levers; and it forms the basis for the present-day lace machines. Many refinements have been made on the original machine so that now it can handle warps of greater than 15,000 ends.

The warp is placed on beams in



Typical lace fabric as made on a Levers machine.

OUT OUR WAY

I CONGRATULATE YOU ON LOWERING YOUR ACCIDENT RATE WITH SPEEDI-DRI!
LOOK AT OLD SAFETY SAM... ALL SMILES! AND WHEN WE TRIED TO GET HIM TO USE SPEEDI-DRI HE COULDN'T SEE IT!
HE'LL TAKE ALL THE CREDIT, TOO... WELL, WHO CARES? SPEEDI-DRI IS HERE TO STAY, NOW!
CASH IN THE BANK
J.R.WILLIAMS
T. M. REG. U. S. PAT. OFF.
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SPEEDI-DRI, the new, revolutionary, oil-absorbent, is lowering accident rates in hundreds of plants, cutting down on slips and falls, eliminating danger of fast-spreading fire. SPEEDI-DRI is a white, granular material that blots up oil, cheers up employees.

Spread on; SPEEDI-DRI provides an immediate non-skid surface. Swept off; SPEEDI-DRI leaves concrete, steel or wooden floors home-clean and dry. It requires no special machinery to apply, no elbow-grease or strong-arm work. One plant took two men off floor maintenance and put them to more valuable work, after discovering SPEEDI-DRI.

Send for a FREE SAMPLE. . . . SPEEDI-DRI for ordinary oils and greases, SOL-SPEEDI-DRI for soluble oils. See for yourself why leading companies are ordering in carload lots.

SUPPLIERS: East—Refiners Lubricating Co., New York 1, New York.
Midwest & South—Waverly Petroleum Products Co., Philadelphia 6, Pa.
West Coast—Waverly Petroleum Products Co., Russ Bldg., San Francisco 4, Calif.

SPEEDI-DRI
OIL AND GREASE ABSORBENT

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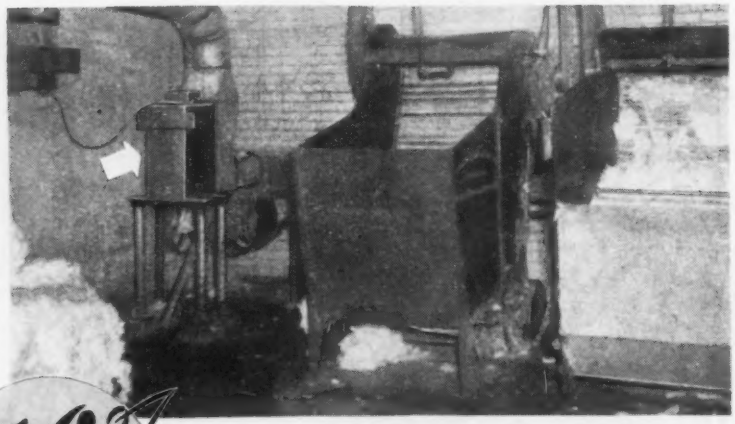
"Think First—Stop Accidents"

Records Prove
DINGS MAGNETS REDUCE OPENER-PICKER FIRES



76%

AN insurance company reports that 76% of opener-picker fires in textile mills are caused by sparks from foreign substances. Records also prove that where Dings Magnetic Separators were installed, fires of this type were practically eliminated.

Eventually some tramp iron will pass the closest inspection. But before it can reach machinery and ignite cotton, a Dings Separator will automatically remove the tramp metal—thus avoiding expensive down time and costly nuisance of cleaning up after a fire. For complete data, write today.

A DINGS MAGNET PREVENTS FIRES IN THIS MILL

The Priscilla Cotton Mills of Charlotte, N. C. installed a Dings Double Gap Vertical Separator (shown above) after averaging more than one $250 fire a month. Since then they have had but one fire.

NEW CATALOG
Send for your copy of the new Dings Catalog No. 99, Fire Prevention In Opening and Picking.

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World's Largest Exclusive Builders of Magnetic Equipment . . . Est. 1899

Dings MAGNETIC SEPARATION HIGH INTENSITY

the bottom of the machine and is threaded vertically to the finished lace, which is wound on the roller at the top of the machine. The filling yarns are wound on small bobbins and each bobbin is held in a shuttle. Then the unit consisting of the shuttle and bobbin is permitted to swing from the bobbin yarn so that it will pass between two adjacent warp yarns. The shuttle operated on a grooved track has an opening which permits the warp yarn to pass through. The warp yarns are shifted by means of the jacquard head which is located at one end of the machine. By combining the shifting of position of the warp end and the swinging of the shuttle, the yarns are twisted about each other so as to form a lace. The jacquard on the modern Levers lace machine is operated from one end of the machine. On one type of lace construction made on a Levers lace machine every alternate warp thread is twisted and looped around the filling yarn. The other warp ends remain perfectly straight and are not traversed. This type of construction is illustrated in the accompanying sketch.

Streaky Blankets

Technical Editor:

The enclosed sample of blanket fabric shows difficulty encountered from streaks which give the blanket a spotty appearance. The trouble has cleared now, but we are still anxious to know the cause. (9026)

The only suggestion which I can make is that the thin places or open spaces, which are very obvious when the blanket is held to the light, seem to be caused by the filling slipping from the warp during some process.

This slipping possibly takes place on the napper. The temples on the loom could be partially responsible for this condition, but I strongly urge that the party making this blanket examine it very carefully by throughlighting the cloth before the blanket is napped.

It also looks as though this blanket is very loosely constructed. It seems that the blanket should contain more threads in both warp and filling; and, of course, if this is done in order to retain the same finished weight, it may be necessary to use a finer yarn. Since all manufacturers are interested in rate of production, it is easy to understand how they might feel about making a finer yarn which would naturally retard production.

Another alternative that may help to correct this situation is a light full-

ARALAC..

custom made for blending

It takes skill...and good materials...to make a fine blend. And that includes everything from coffee to fabrics. • *ARALAC fibre... custom made for blending... is soft, resilient, and warm. It blends these qualities into fabrics... gives them loftiness, resilience, and lustrous beauty.*

ARALAC, INC.

71 Vanderbilt Avenue, New York 17, N. Y.

ARALAC, produced by a division of NATIONAL DAIRY PRODUCTS CORPORATION, represents but one of the many contributions this nationwide organization is making toward the more efficient utilization of America's agricultural resources.*

*T.M. Reg. U.S. Pat. Off.

Now You Know
HOW GOOD JOHNSON SIZERS ARE:

If yours is one of those mills that have been dependent on a pre-war Johnson sizer to size warps for all their looms, three shifts a day, six days a week —

You know what fine dependable sizers Johnson's are.

Many plants have been supplying warps for 200 or more looms from a single Johnson sizer, without a breakdown to stop production.

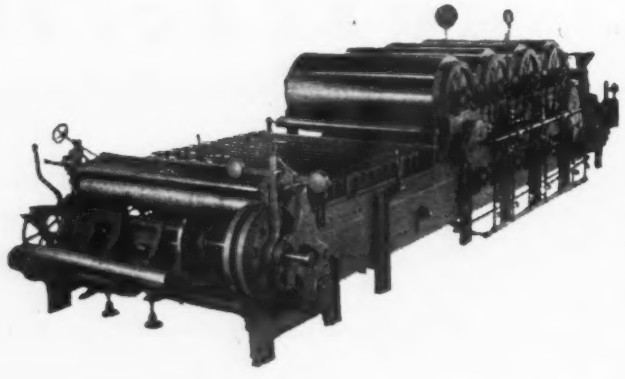
JOHNSON SIZERS HAVE STOOD UP

As One Mill Manager Put It —

"Our Johnson Sizer has been running for 4½ years, twenty-four hours a day without a single breakdown.

"When you put in one slasher and keep practically one thousand looms (320 looms running a 3 shift schedule) going 24 hours a day for 4½ years—that is something."

Johnson Sizers will serve faithfully for the duration and go on indefinitely.



Charles B. Johnson MACHINE WORKS

PATERSON P. O. Box 1507 **NEW JERSEY**

ing. This simply means that it is entirely possible to put this cloth in the fulling mill for a few minutes with a medium weight soap. Or, as a matter of fact, the cloth could possibly be fulled satisfactorily without any soap at all—just water, and in that way close up the cloth and interlock the fibers where they will not tend to pull apart at some later process.

The stock contained in this cloth seems to be good and possesses good felting qualities. We would suggest fulling, after determining where the open places occur.

Another of our technical contributors advises that since the fabric is a double plain weave and is loosely woven, quite a number of different things might cause the uneven and streaky appearance present in the sample. Some are as follows:

1. The listing looks a little too tight. This may be caused by too many ends being crowded into the reed.

2. The temple rolls may be too close together. There should be just enough tension on the cloth to keep it even all the way across.

3. In this particular case, the streaks are probably caused by the let-off not working evenly.

4. The shed is closing too quickly. This could be overcome easily if the overseer of weaving would watch the loom a few minutes and experiment to find the best timing for that particular work.

5. On examining the cloth very carefully, you will find a very small spiral burr or a rough place on the yarn at each of the places that look streaky. When there is a burr or an uneven place, it takes more power for the pick to be beat into the cloth. This is caused by the shed closing too quickly. Therefore, any small burr or uneven place on the yarn is apt to cause a small uneven place on the cloth, especially if the cloth is loosely woven.

Your correspondent will find that they have run into some South American wool which contains a few spiral burrs. One spiral burr will make a lot of small burrs after carding, and each of these small burrs catching on the warp yarn can make a lot of trouble.

6. A few turns of the twist out of the filling yarn would not hurt, if the yarns have strength enough in the fabric after napping to stand the amount of the twist taken out. On uneven yarn most of the twist will go to the finest or thinnest place in the yarn and therefore will show and will not nap evenly.

OSCAR HEINEMAN CORPORATION

THROWSTERS of Yarns for the Hosiery Trade

Quality Products for Fifty Years

We take pride in the fact that we were pioneers in the practical application of *Avconit in the sizing and processing of high twist Rayon yarns.

Our processing results in maximum production with a minimum of seconds and waste. We are prepared to process your yarns to best meet your particular needs.

For best results have your yarns processed the *Avconit way by

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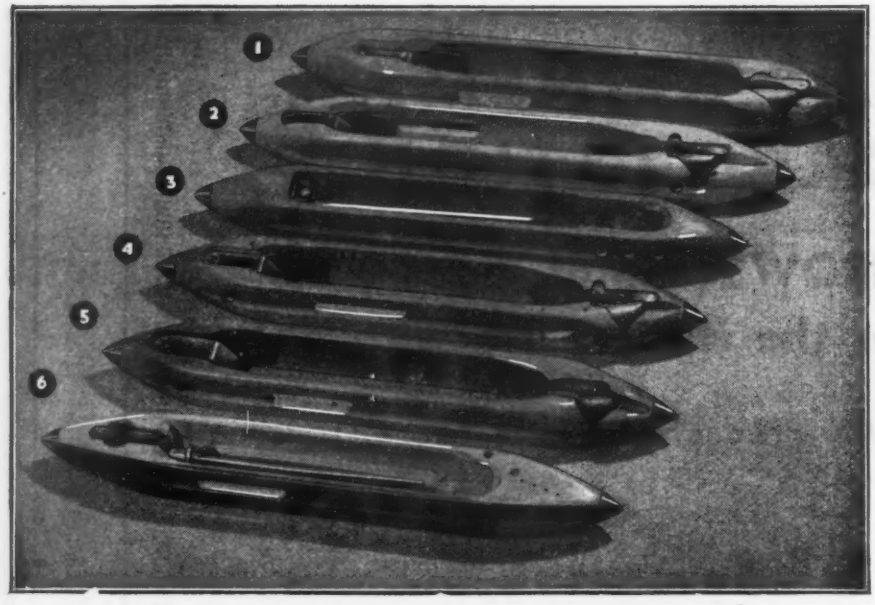
SHUTTLES
LOWELL

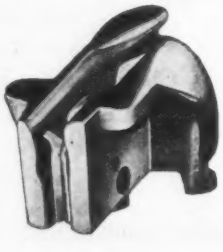


47 Years of Manufacturing Experience

1. Shuttle for Automatic Wool Loom.
2. Shuttle for Automatic Worsted Loom.
3. Shuttle for Plain Worsted Loom.
4. Shuttle for Automatic Cotton Loom (equipped with brass threader).
5. Shuttle for Automatic Cotton Loom (equipped with cast iron threader).
6. Shuttle for Silk or Rayon Loom (equipped with Paterson Tension and Fibre Covered on one side).

Forty-seven years of manufacturing experience contribute to the superior quality of Lowell Shuttles. They are made of dogwood or persimmon, as specified, and include automatic and non-automatic types for cotton mills (including duck), woolen mills, worsted mills, silk mills, rayon mills, paper mills, and carpet mills; also fibre covered shuttles for rayon and silk. This covering not only prevents roughing up of yarns; it is applied to the shuttle to STAY. All wood is thoroughly seasoned, carefully dried and finished to specifications.

AUTOMATIC TENSION EYE



Can be furnished in place of regular tensions for more precise control in weaving rayons, fine worsteds and fine cottons. Contains two hardened steel plates pushed together by coiled springs. Adjustment effected by screws.

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Established in 1896 — *Incorporated in 1914*

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Urgent War Needs Again Get Right-of-Way

(*Continued from page* 109)

heavy program will probably be for the winter of 1945-46. UNRRA has allocations for the last quarter of 1944 and first quarter of 1945 amounting to about 20 million yards of wool fabrics and 45 million yards of cotton fabrics, exclusive of what is purchased by France, Norway, Belgium, and Netherlands, which make their own procurements.

Italy is not a member nation of UNRRA but comes under the Military. The necessity of getting food and clothing to Italy in increasing quantities is recognized because of the political unrest in Italy. The same may be said for France. Shipping space will be provided to take cotton to France for use by her textile industry. Reports show that mills were left intact by the enemy and that approximately 200,000 workers are available. Negotiations are now under way to get the allotted 180,000 bales of cotton there as soon as possible. More will be sent from time to time. It is assumed that this assignment is a Lend-Lease purchase in part, at least.

UNRRA eventually will handle relief for Greece, Poland, Czechoslovakia, and Yugoslavia. At present it is trying to locate ships which will be needed to carry supplies to Greece, since the British are expected to turn over all this relief work to UNRRA. One ship has been located for carrying supplies to Poland. UNRRA is having difficulties in getting permission to send supplies to Russian ports for delivery in Czechoslovakia. In fact Russia does not appear to be too pleased with certain aspects of the UNRRA setup, and therefore operations may be held up in this section. Relief operations have not started in Yugoslavia.

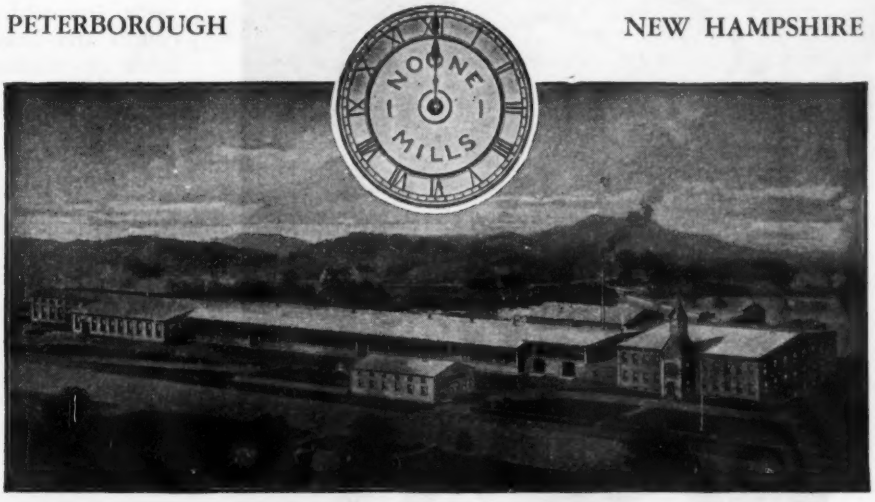
Allocations are for procurements in U. S., United Kingdom, Canada, and Brazil. Roughly, about two-thirds of the woolens will be procured in the United States and about one-third of the cottons. UNRRA procurements are estimated to run a little less than 60% of the total for the liberated areas; the remaining 40% or more will be purchased by paying governments. Relief requirements are not clearly defined and probably will not be until after the termination of the war with Germany. Much will depend on when it ends and the conditions that prevail at that time.

TEXTILE MACHINERY. There will be much more textile machinery manufactured unless war demands become

The Joseph Noone's Sons Company

A. Erland Goyette, Owner

PETERBOROUGH NEW HAMPSHIRE



Established 1831

Noone's Standard Roller Cloths

Insist on Noone's Standard Roller Cloths for your Spinning Rolls. Noone's have been Standard since 1831.

Results and costs are what count most.

Use Noone's Roller Cloth and be assured of a Strong Round uniform yarn, the best obtainable. Eventual cost, less than any other covering.

Good spinning can always be obtained when Noone's Roller Cloth is used, as it is the properly built Cloth,—has the correct cushion and consistency, and uniform gauge.

Noone's is best by test.

Many materials have been used for Spinning Roll Covering in years past, but have eventually been discarded in favor of the dependable Woolen Roller Cloth and Leather.

Do not be misled, put your faith in the good Old American Products: Noone's Roller Cloth and Leather. If in doubt, allow us to demonstrate the superiority of our Roller Cloth and a leather cot.

Use Noone's Roller Cloths, Noone's Slasher Cloths, Noone's Clearer Cloths.

Noone's are the Pioneers in Mechanical Cloth Manufacturing in America.

WILLIAM R. NOONE & COMPANY

Selling Agents

ARNOLD T. MALONE, Manager

105 Washington Street Boston, Mass.

RELY ON GLOBE

FOR DYEING BLENDS

There is an endless procession of blend yarn today—

Rayon with cotton,
Rayon with wool,
Rayon with acetate, and all sorts of combinations of natural and man-made yarns, each with its own characteristics and affinities for dyes.

GLOBE dyers know and dye them all, in packages wound on perforated tubes, or in skeins.

Bring us your blend yarns for dyeing.

1865

Dyers, bleachers and mercerizers of cotton skein yarns, and warps.

Globe DYE WORKS CO.

1945

Dyers of rayon spun rayon, Aralac, nylon, novelty and blend yarns

FRANKFORD PHILADELPHIA 24, PA.

too great and manpower too critical so that machinery manufacturers have to take back war orders which have been placed elsewhere. Ratings for new machinery are now for the Military. Replacements are needed to take care of the increased demand of the Armed Services for duck, merino yarns, tire cord, and thread. Heavier counts and heavier fabrics are being made on machinery not constructed for such use.

OPA. The price-control act will be extended. It is the intention of OPA to retain price controls until inflationary tendencies have passed. Price control on textiles can be expected at least through 1945. There will be further chaneling of specific fabrics into low-priced items, in which move OPA will work closely with WPB. Adjustments can be expected in some interim prices.

The so-called net-worth formula is not a new one. It provides for price increases if the current price is insufficient to allow producers to pay parity on cotton and get profit at least as great as in the base period. Adjustments will be made by OPA for any change in the investment, meaning changes in net worth of the corporation. This test has been applied to the producers of major items. What is new is that item by item is now examined and adjusted to reflect parity on cotton.

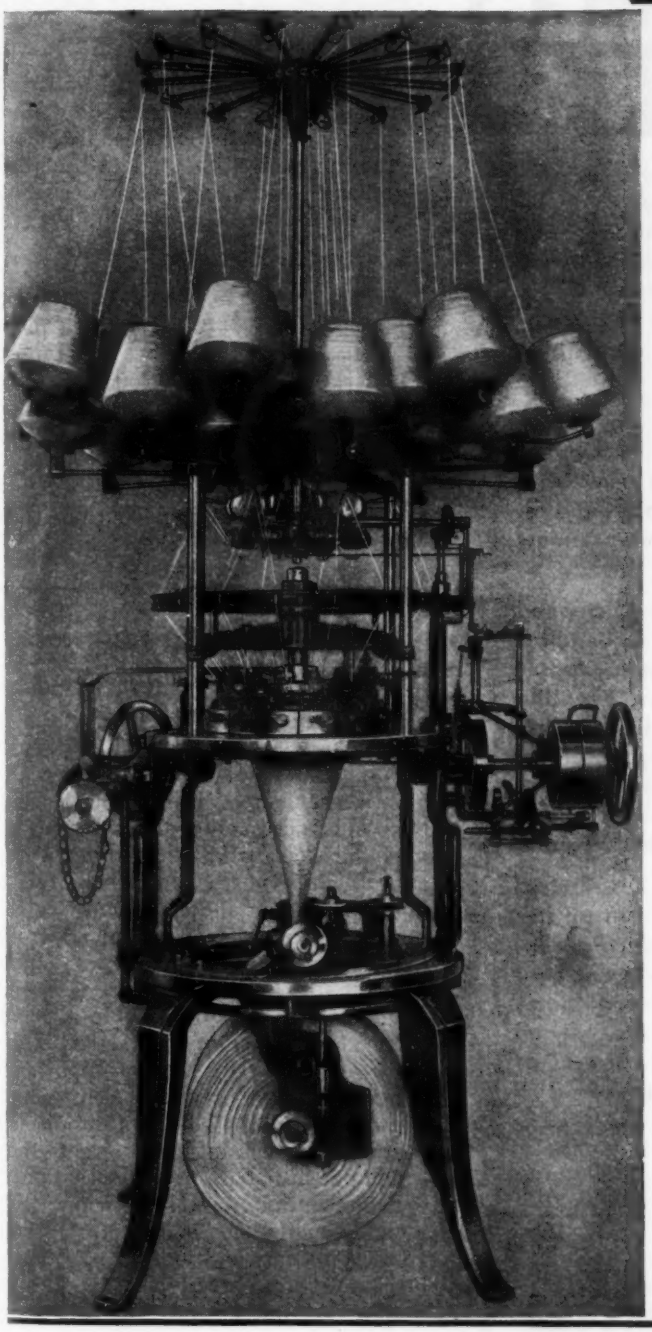
July 1, 1944, the Bankhead amendment was enacted. Mills were asked to send in cost data. In many cases, data were incomplete but were accepted by OPA so that it could fix interim prices. These were regarded in all cases as temporary prices pending the assembling of complete data. This information is now coming in so that complete cost information may present a different case from what the partial data indicated. There is now the likelihood that in some cases these interim prices will be regarded by OPA as too high and therefore will be adjusted downwards—a move which the industry is ready to fight.

OPA points out that costs on which the prices were based represented the latest cost figures with allowances for wage increases. The standard is based on the aggregate base-period dollar profits once the price is determined and established. If the current volume of production increases, the profit figure remains fixed. OPA reasons that the more the mills produce, the more profits they should receive. If there should be a pronounced increase in the volume of production over a period of time, OPA might re-examine the case to ascertain whether profits are out-of-line. If there is a decrease in

PRODUCTION

a Machine that will DOUBLE *it!*

PRODUCTION



That's a crude, unvarnished statement—but it's the truth and the truth can afford to be bare. On the very spot of floor space in your mill which is now occupied by an 8-feed knitting machine you can put this

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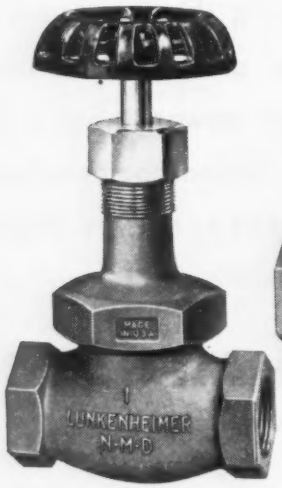

Fig. 123
"N-M-D" Globe
(Non-Metallic Disc)

Fig. 2125
125 lb. S. P. Bronze Gate
Double Disc, Rising Stem

Today, with greatly stepped up production schedules, maintenance men appreciate more than ever the rugged durability, efficiency, and longer service life of Lunkenheimer Valves —the less attention and fewer repairs they require.

Lunkenheimer Distributors are located in all important industrial centers. There is one near you, ready at all times to assist in solving your problems of maintenance and operation.

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production, industry has a right to ask that the case be re-examined to see whether it is receiving minimum profit allowed by law.

The obligation of OPA is to protect the base-period profits. It emphasizes that the standard set is for minimum profit, not for maximum.

Final pricing under Bankhead is scheduled to be completed by the end of the first quarter for 1945, if not sooner. This means either confirming interim prices or setting new ones where necessary and putting final pricing on commodities which have had no interim price given to them.

RENEGOTIATION. The Renegotiation Act, now scheduled to expire on June 30, 1945, will be extended by Congress to at least the end of the year, probably giving the President authority to continue it for another six months if needed.

WAGE STABILIZATION. There is no indication that the Government plans to relax the present wage-stabilization policies until Germany is defeated. In his recent report War Mobilization Director James Byrnes states that the War Labor Board is considering wage adjustments after the war in Europe is over. Labor groups will continue their fight for higher wage ceilings.

Struggle for Production

(*Continued from page 106*)

military needs in 1944 were only 6%; while in 1945, it is likely that this proportion may be doubled. Military call for hosiery affects principally the half-hose branch, and requires over 80% of the wool half-hose production and nearly 30% of the cotton half-hose.

The important problem of the moment is to meet fully and promptly the military needs for textiles. These needs are limited to certain specific items, and it is reasonable that all civilian production must take second place to this call. Next in importance come essential civilian needs which should be filled in order of importance after the fighting forces get their equipment. The civilian situation is being confused by OPA pricing activities which many manufacturers consider arbitrary and unfair to the point of upsetting the normal varieties of goods produced and their interrelations.

The effect of all this is clearly that the textile scarcity, felt first in military circles, will descend to civilian-consumer levels with previously unanticipated severity. Retail sales of all products in 1944 were up 11% over 1943, but these sales drew heavily on stocks;

DRAX-treated fabrics lead a charmed life!

Trademark Reg. U. S. Pat. Off.

Johnson's DRAX, born of wartime needs, is a practical finish which *protects* the newness, freshness, crispness of fabrics. DRAX *guards* the fabric freshness of any textile or garment . . . cotton, rayon, linen, wool . . . dresses, playclothes, sportswear, shirts. DRAX-treated fabrics resist dirt . . . withstand handling . . . won't easily soil . . . shed water.

Not only do DRAXed garments have extra sparkle and freshness to begin with, but they will continue to lead a charmed life because DRAX protection is so easy to maintain. The housewife will be able to re-DRAX clothes and fabrics right in her own home. Or she may obtain DRAX service at her laundry or dry cleaner.

DRAX is being strongly merchandised! Part of every Johnson national advertisement is devoted to DRAX promotion—in The Saturday Evening Post, Ladies' Home Journal, Good Housekeeping, The New Yorker, American Weekly, and many other publications. Consumers will be looking for the DRAX-tag or label, when buying!

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and retailers at the turn of the year were looking forward with grave doubts to 1945 as the impossibility of replacing many items became evident. In apparel alone it is expected that 1945 retail sales must be 30% less than 1944.

COURSE OF WAR VITAL FACTOR. Whether this situation will draw clothes rationing from OPA remains to be seen. Some authorities have been expecting such rationing for over a year. Actually it is not likely so long as it can possibly be avoided. Decision will probably come in the first half of this year. Unless the European phase of the war can be successfully concluded in that time, further civilian scarcities may force textile rationing. If the pinch tapers off at mid-year with lessening military needs in the second half, the keenness of the production emergency may have passed. It is the course of the war rather than any abstract economic relationships which will mold the general contour of textile business in 1945.

Cotton Maturity Tests

(*Continued from page 163*)

been the same differences between results, of course, had they been calculated. The immaturity is given rather than the maturity for the convenience of using the smaller numbers. Subtracting the percentage of immaturity from 100 will, of course, give the percentage maturity. The results obtained by the two methods are given in Table 3.

In only 10 of the 87 cases is the difference in immaturity as determined by the 2 methods greater than 3%, and 5 of those 10 differ by only 4%. The greatest difference is 7% for 2 cases. The average immaturity for the 87 cottons by the NaOH method is 36.76% with a standard error of ± 0.56, and by the polarized light the average immaturity is 37.05% with a standard error of ± 0.60. The difference of 0.29 between means is clearly not significant. The correlation coefficient for the 2 methods is 0.93 with a standard error of estimate of 2.11. The regression equation is NaOH = 0.9876X polarized light.

PREFERRED METHOD. The use of the polarized light has certain advantages over the method using NaOH. Since the fibers are viewed at a lower magnification, much greater length of the fiber is observed. The stage can be rotated to check the few doubtful fibers much more quickly than the fibers can be measured. The method is less "messy," and slides do not need

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OUR facilities and our manpower are committed to the tremendous task of serving our country's war-time needs. That we have done a good job is attested by the bestowing of the fourth star on our "E" Burgee. These times will pass and when peace is restored—when our fighting forces return and people again take up normal living, Rock River Woolen Mills will be in a position to give its efforts 100% to serving its customers in an even better and more efficient manner.

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to be washed and dried for reuse. Each of five persons using the two methods over a period of several years has expressed preference for the polarized-light method as being "more interesting." Border line cases were more easily decided, and less time and labor were consumed.

Since no textile laboratory is now considered completely equipped without a polarizing microscope and since the same microscope can be used also for the NaOH method and substituted for the usual compound microscope, the equipment for the polarized light method is available in most textile laboratories without additional cost.

It is concluded from this study that there is no significant difference in the results obtained by the sodium-hydroxide method and the polarized-light method of determining the maturity of cotton fibers.

REFERENCES

1. Donald B. Anderson and Thomas Kerr, Growth and structure of cotton fiber, 1938, *Ind. & Eng. Chemistry*, 30 : 48-55.
2. Howard B. Richardson, T. L. W. Bailey, Jr., and Carl M. Conrad: Methods for the measurement of certain character properties of raw cotton, 1937, *U.S.D.A. Technical Bulletin No.* 545.
3. E. R. Schwarz and G. H. Hotte, Microdetermination of cotton fiber maturity in polarized light, 1936, *Textile Research*, V : 370-376.
4. E. R. Schwarz and G. H. Hotte, Notes on technic for determination of fiber maturity by polarized light, 1935, *Textile World*, 85 : 1477-1478.
5. Chester L. Pattee, The cotton classer finds a valuable tool in the polarizing microscope, 1934, *Textile World*, 84 : 2012-2013.
6. W. Edwin Stevens, Is the fiber ripe? A polarizing microscope gives the answer at Interlaken, 1935, *Textile World*, 85 : 1475-1477.

Weaving Monofilaments

(*Continued from page* 147)

tendency to rust or collect more resin and often will give a tight tension. Springs should be slightly oiled. Very light tension should be used, for as filling unwinds from the bobbin, more tension develops.

On bobbin-change looms, the yarn is fed between plates; but, in time, resin sifts into the tension springs and causes trouble. Hand-change or shuttle-change looms are preferred for weaving monofilaments. In these looms, a "step" bobbin can be used to permit smoother unwinding of filling yarns from tip to butt of bobbin.

When too much filling tension predominates, torn-out selvages and pulled-in edges are common. To overcome some of this trouble, a wire pull-out cord can be attached to the lift for holding the yarn. As the cloth weaves on past the breast beam, it pulls subsequent woven-in picks free from the woven-in wire. This forms small loops on the selvage as shown in

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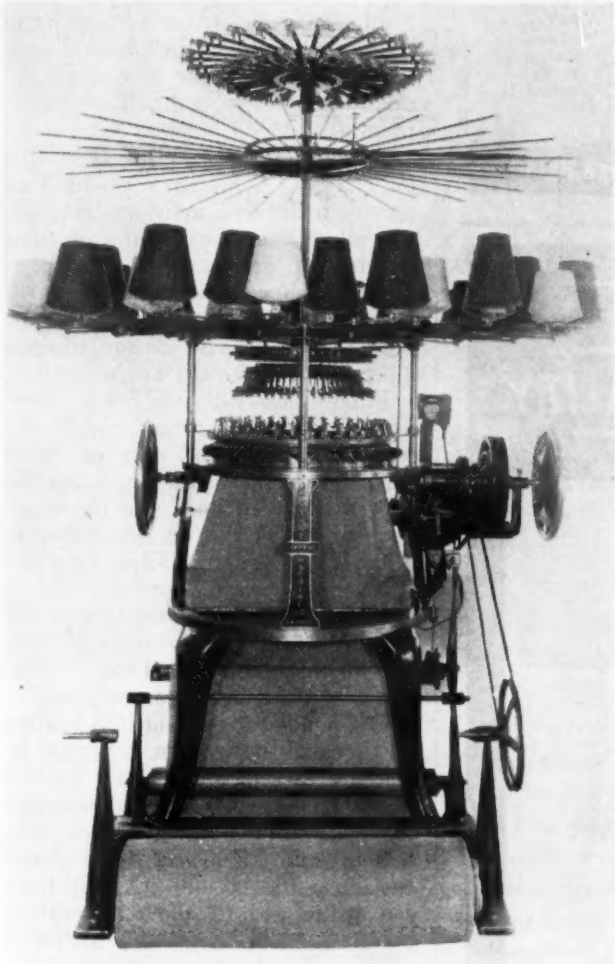

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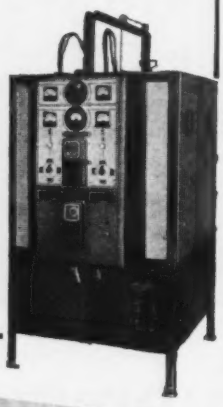

The Single Arc Model is a popular machine where high speed is not required.

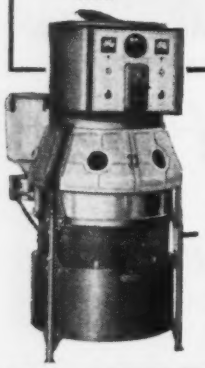

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Fig. 3, but they will not be detrimental to the cloth.

Dogwood shuttles are recommended instead of fiber due to resin which collects on the shuttle surface. Fiber accumulates resin rapidly and causes a bruising of warp yarns. Wood is less susceptible to resin accumulations and easier to clean. Weavers should be supplied with thin scrapers to rub off the crust as it forms.

CONDITION FILLING. The stiffness of some monofilament often will leave unusual defects in the cloth. In order to keep this trouble at a minimum, the following suggestions are made. They have been tried and proved satisfactory.

When new yarn comes in, remove it from its containers and allow it to age for not less than 72 hr. This requires a constant flow of material into the bobbin-winding department. Use up oldest yarn first.

It has been discovered that if yarn is allowed to accumulate on bobbins for several days, the appearance of filling-wise cracks in the cloth takes place. Freshly wound bobbins will run, from start to completion, free from cracks. Filling yarn should be kept at a minimum when nearing a shut-down period for the week-end or other reasons.

Excess humidity also has a bearing on cracks. Although a plastic yarn may actually shed moisture, moisture will allow free slippage of yarn after the beat-up and cause cracks. If a number of looms could be housed in a single room running plastics entirely, humidity could be dispensed with; and a better piece of cloth would result.

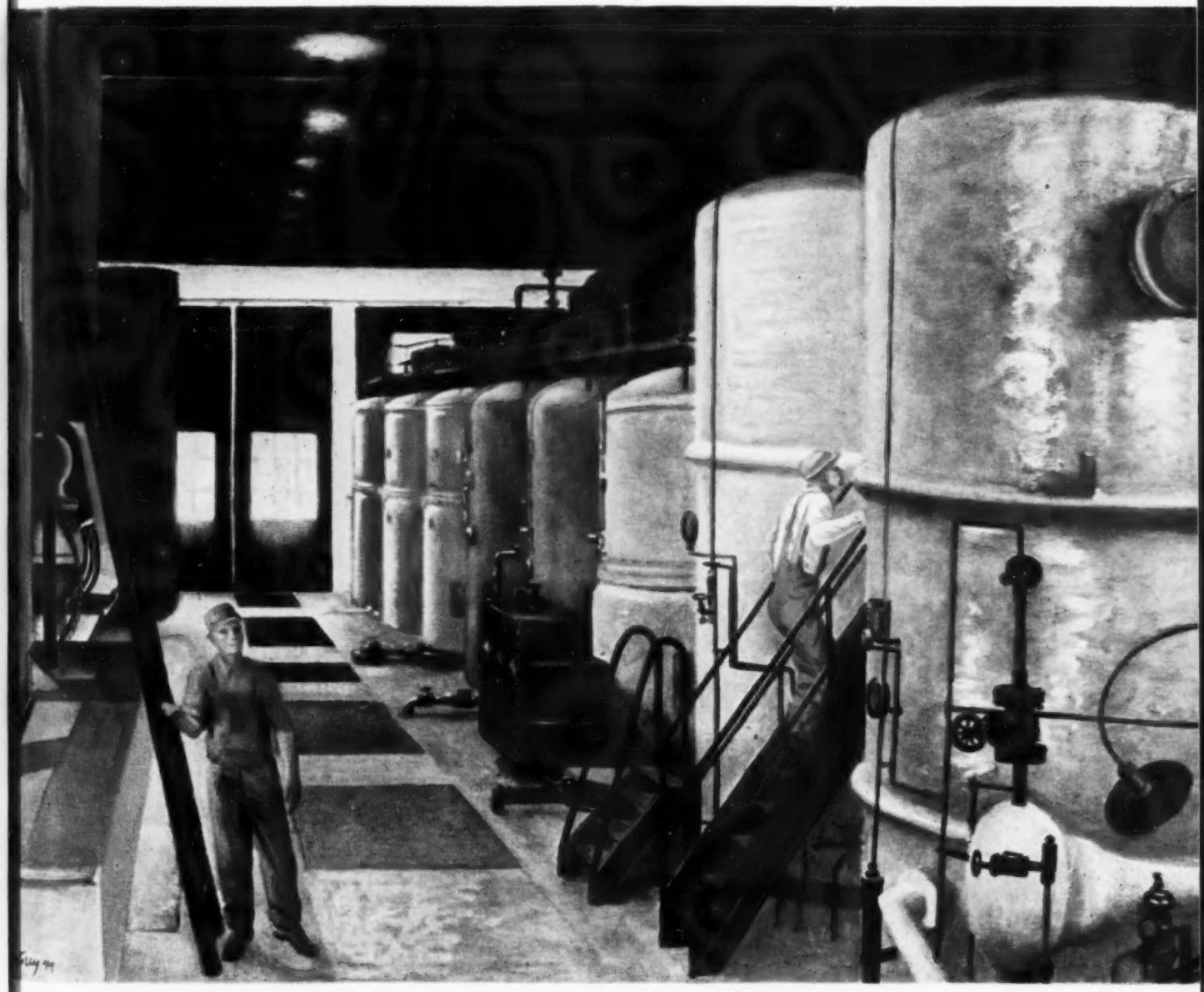
Filling yarn will run much better if the bobbins of yarn are placed in a heated compartment prior to being used. On shuttle-changers, a box-like apparatus can be built near the magazines. A reflector on one side can direct the heat to the filling yarn and shuttles. If plastic yarns are run on bobbin-changers, a heating unit should be placed to direct heat onto the bobbins in the magazine. This is a difficult procedure, but it can be done.

On hand-change looms, a heating unit secured to the loom arches can be placed between two looms. Such a unit should be of suitable dimensions to hold the two loom boards with bobbins and a 200-watt lamp placed back near the bottom. As the front can be hinged to allow removal of bobbins, it will be a simple matter to secure full bobbins as needed.

Heat, instead of hardening the yarn, really tends to soften it, so that it runs off the bobbin without the usual ballooning or uncoiling and slipping off the bobbin. Heat must be used on heavier plastics in order to avoid kinky

(*Continued on page 221*)

Timely Experience . . .



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CAUSTIC POTASH • CAUSTIC SODA • PARADICHLOROBENZENE • CARBONATE OF POTASH • LIQUID CHLORINE

(Continued from page 218)

and snarled filling, sloughed-off bobbins, wild yarn, and jerkins.

Of course, hand-changing of shuttles cuts the number of looms per operative. One loom can turn out approximately 80 yd. in a shift of 8 hr. on a slowed-down loom speed, and a weaver is capable of handling four such looms. This is conservative. A weaver can handle two heavy plastics and six Fortisan weaves, or a combination of various constructions. On fine counts, even on the nylon monofilament used on leno weaves, weavers handling twelve bobbin-change automatics seem to have a fair load. Of course, this loomage is not to be compared with the 120-loom load of some weavers running cotton. Cotton weavers handling monofilaments must realize that this yarn will have to be handled differently—their entire viewpoint on loom-loads and speeds will have to change.

Manpower Shortage

(Continued from page 120)

caps resulting from physical deficiencies. Regular exercise, proper sleep, good food, balanced relaxation, fresh air and sunshine, and medical care are considered essential to physical fitness.

WOMEN. Textile supervisors who have large numbers of women employees on their hands are often perplexed because the handling of women presents special problems. Since problems of handling women are varied and sometimes complex, a woman counselor or an adviser can help foremen understand the problems, attitudes, and reactions particular to women.

Mrs. Frances W. Trigg, special agent of the U.S. Office of Education, conducted a series of conferences on the more efficient use of women in industry for personnel and management representatives and supervisors. These conferences are arranged by the state departments of vocational education and have been made available in textile areas.

Women trained as industrial counselors are filling a need in industry. Undoubtedly there is a permanent place for women counselors in the textile industry where normally a high percentage of women are employed. Small plants that cannot afford full-time counselors can probably arrange for an industrial counselor in cooperation with other mills.

LABOR TURNOVER. A loss of 11,000 workers in the four months April to July was recorded for the cotton-goods

A HOIST TO FIT THE JOB

This Signal Corps picture, taken somewhere in France, shows U. S. Army Engineers using a Coffing "Safety-Pull" hoist in the construction of a treadway bridge.

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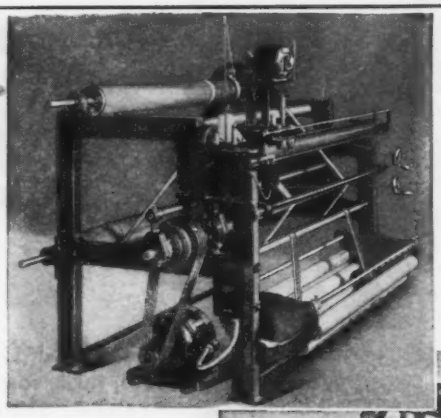

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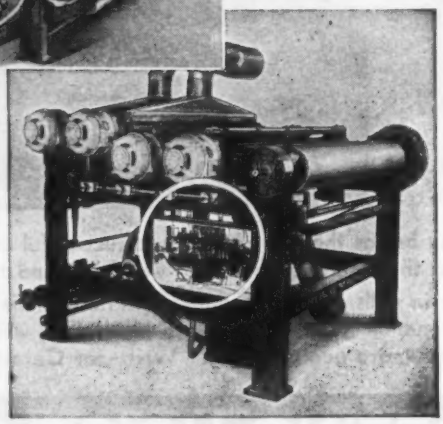

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industry. This made the employment level the lowest for this industry since the fourth quarter of 1940. More and more women leave the industry and fewer seek employment. The rate of discharges has been low but the rate of quitting has remained high. The channeling through the USES offices of all workers who seek employment or change of employment has made it more difficult for essential workers to leave jobs.

In the fall, many seasonal workers such as school teachers, and high school students left the industry to resume other duties.

Appeals by the WPB, the Quartermaster Corps, and the WMC were made directly to management and employees to keep up production and remain on the job when it became apparent that serious duck shortages had developed. The Army Service Forces sent 35 officers to textile areas, with headquarters at local USES offices, to help expedite the duck program.

Many of the most progressive mills are giving considerable thought to the problem of fatigue. Some of these have found that by remodeling their wash rooms and providing space where workers can sit down for a few minutes to rest, talk, or smoke, workers seem to feel better and worker fatigue is reduced. The main consideration in many mills is the abuse of the privileges given on the job; if these privileges are not abused, mills will certainly give more attention to improving areas where workers may spend rest periods more comfortably.

Durable Repellency

(*Continued on page 135*)

eight boxes. A solution of detergent and alkali at elevated temperature is usually carried in the first two boxes. All of the following boxes but the last contain running hot water. Each nip has a cold or hot water spray and the last box contains running cold water. This thorough washing and rinsing is necessary in order to remove every trace of impurity from the goods. If a small amount of detergent is carried through on the fabric, the initial repellency may suffer greatly.

After washing, the goods may be dried in any desirable manner and finished in the usual way.

CONTINUOUS UNIT. Fig. 3 illustrates a processing assembly in which the impregnation, drying, curing, and washing operations are continuous. Although an installation of this type is quite costly, it has proven very economical in operation. If properly

There's no Scarcity of Hooker Quality

Here's where Hooker can help you. Whenever you get a shipment of Hooker chemicals, you can be sure that it is of the same uniformly dependable high quality it has always been—made with the same high standard of purity which you have come to expect from Hooker. In fact, it's because we are determined to maintain this high standard that shortages sometimes occur.

Among the Hooker chemicals important to dye and textile chemists the four following are readily available in the quantities you need. If you are not now using them, a request on your letterhead will bring samples and further data.

ALUMINUM CHLORIDE, ANHYDROUS, $AlCl_3$, a gray crystalline solid available in 3 screen sizes. Soluble in Nitrochlorbenzene, Orthonitrochlorbenzene.

ANALYSIS

$AlCl_3$	99% min.
Fe	0.10% max.
Shipping Containers	Pails 50 lb. net
	Drums 500 lb. net

MONOCHLORTOLUENE (METHYLCHLORBENZENE), $CH_3C_6H_4Cl$, a clear colorless liquid insoluble in water, soluble in alcohol and ether.

BOILING RANGE	158 to 165°C
SPECIFIC GRAVITY	
at 15.5°C	1.080 ± .005
Shipping Containers	Cans 44 lbs. net
	Drums 450 and 900 lbs. net

SODIUM SULFIDE, Na_2S, a light yellow colored solid in flake form, soluble in water, slightly soluble in alcohol, insoluble in ether.

ANALYSIS

Na_2S	60 to 62%
NaCl	1.5% max.
other Na Salts	2.0% max.
Fe	10 to 15 ppm
Cu, Ni, Cr, Mn, Pb	1 ppm max.
Water of crystallization	36.5 to 34 %
Shipping Containers	Drums 90 and 350 lbs. net

SODIUM SULFHYDRATE, NaSH, a light yellow colored solid in flake form. Soluble in water and alcohol, insoluble in ether.

ANALYSIS

NaSH	70 to 72%
NaOH	0%
Na_2S	0%
NaCl	1% max.
Na_2SO_3, $NaHCO_3$	1% max.
Fe	5 ppm max.
Cu, Ni, Cr, Mn, Pb	1 ppm max.
Water of Crystallization	28 to 26%
Shipping Containers	Drums 90 and 350 lbs. net

OTHER HOOKER CHEMICALS FOR THE TEXTILE INDUSTRY

Antimony Trichloride, Anhydrous	Monochlorbenzene
Benzal Chloride	Orthodichlorbenzene
Benzoyl Chloride	Paradichlorbenzene
Benzyl Chloride	Paranitrobenzoyl Chloride
Caustic Soda	Phosgene
Chlor Anisidine	Sodium Tetrasulfide
2:5 Dichlor Aniline	Sulfuryl Chloride
Liquid Chlorine	Thionyl Chloride
Metanitrobenzoyl Chloride	Trichlorbenzene

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The same brilliant, clear quality that reduced rejects in batch bleaching is now a "must" for continuous peroxide bleach. We welcome your request for more information and proof.

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designed, there is little that can go wrong with it. The economic advantages gained by the use of this equipment are obvious.

The durable water-repellent compounds cause some discoloration when applied to white or light-colored fabrics. It has been shown, however, that this objection can be overcome by bleaching the goods with hypochlorite after the application of the water-repellent. In order to do this successfully, it is necessary to use an effective wetting agent in the bleach bath or to wet the goods out previously by padding through a solution of wetting agent. The wetting agent must, of course, be completely rinsed out of the goods after bleaching. In processing fabrics of this type, it would probably be practical to postpone the usual bleaching process until after the application of the water repellent, in which case the bleaching and neutralizing could be accomplished in a single step.

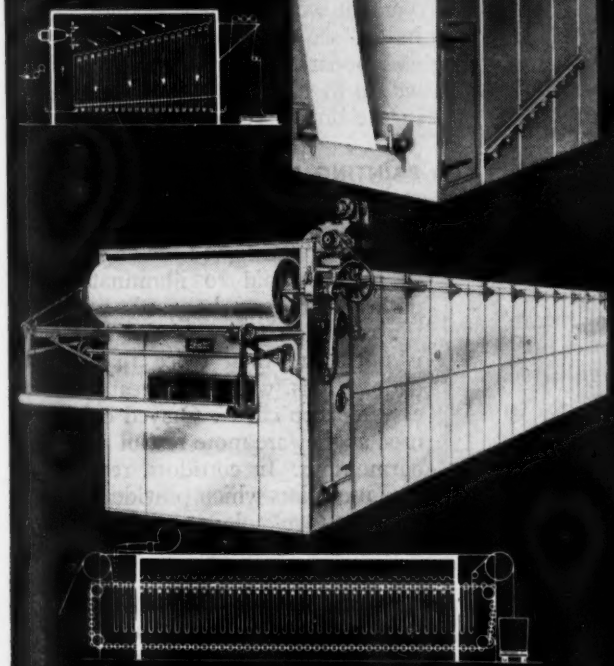
For various reasons, it is often times desirable to clean up, or strip and redye, goods which have been treated with durable repellents. This can quite often be accomplished successfully. If the goods have been spotted due to premature decomposition of the water-repellent compound in the impregnation bath, the spots if not too heavy may be removed by treatment with an emulsified, active organic solvent, followed by a surface-active agent of high-detergency value. If the goods are off-shade, stained, or for any reason need to be stripped and redyed, this may be accomplished simply by the use of effective wetting agents in the stripping and dye baths. After redyeing and removal of the wetting agents, it will be found that the water-repellent properties of the fabric have been retained to a remarkable degree.

SUMMARY. Two quarternary ammonium type compounds are in common use for production of durable water-repellent finishes. They resemble each other closely in method of application and in end result. The fundamental difference in the two compounds is that one is an acyl-amido-methyl-pyridinium salt while the other is an acyl-oxy-methyl-pyridinium salt.

In the application of these compounds, the following desirable conditions are needed:

1. Cloth should be uniformly absorbent and free from soluble impurities.
2. Padding solutions should be prepared according to manufacturer's instructions.
3. Three-bowl padder for impregnation should be used to insure complete penetration.
4. Curing-machine design should

Proctor Roller Type Dryer recommended for moderate capacities in curing.



Proctor Loop Dryer is the ideal machine for curing resin treated fabrics where capacity requirements are high.

After months of exhaustive experiments in the laboratory and under actual working conditions, we are now ready with the *facts* on CURING RESIN TREATED FABRICS. There are two Proctor machines, each with a proven performance record as a dryer which can be equipped for the high temperatures necessary in curing. One of these machines, the Proctor Roller Type Dryer, is especially suited where production requirements are not great. When higher production must be met, the Proctor Loop Dryer is recommended. It is cautioned that neither of these machines is suitable for drying goods after resin treating. This must be done on a tenter frame to assure drying to proper width. However, after the drying operation, the dried, resin treated material should be run through and cured in either of these machines, depending upon plant requirements.

Write Today. Specific recommendations can be intelligently made only when both you and we have all the facts about your particular curing problem. If you have a need for this type of equipment—write us today and we'll begin working together to fill your needs.

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We manufacture all types of Industrial Brushes

give rapid and uniform heat transfer.

5. A seven or eight-box open-width washer with adequate water flow will insure proper rinsing.

Light-colored fabrics may be treated successfully by bleaching the goods after the water-repellent treatment.

Treated fabrics containing spots may be cleaned up usually by treating with an emulsified solvent and detergent. Treated fabrics may also be stripped and redyed, by using an active penetrant in the stripping and dyeing baths.

Acknowledgment

The author wishes to thank the Andrews & Goodrich Co. for permission to use the sketch of the curing unit in Fig. 2, and the Warwick Chemical Co. for permission to use the time-temperature chart in Fig. 1.

REFERENCES

1. A. W. Baldwin, J. G. Evans, C. E. Salkeld, and Imperial Chemical Industries, Ltd., British Patent 477,991 (1937).
2. A. W. Baldwin, E. W. Walker, and Imperial Chemical Industries, Ltd., British Patent 475,170 (1937). Ibid., U.S. Patent, 2,146,392 (1939).
3. J. H. Shipp, U.S. Patent 2,146,408 (1939). Ibid., U.S. Patent 2,160,176 (1939).
4. W. V. Wirth, and R. F. Deese, Jr., U.S. Patent 2,212,654 (1940). Ibid., U.S. Patent 2,291,519 (1942).
5. J. B. Rust, U.S. Patent 2,261,097 (1941).
6. Ibid., U.S. Patent 2,285,948 (1942). Ibid., U.S. Patent 2,315,135 (1943).
7. E. Zerner, *Textile Research*, XIV, 242, (1944).

Textile Safety Record

(*Continued from page* 165)

on a dark machine or on dark work and then looks up to the window for only a second and then back to his work, it will be a few seconds before he can see clearly due to the slow accommodation. In general, anything we do to lighten surfaces and objects in the line of vision is beneficial.

PAINTING PLANT INTERIORS. In general, plant interiors should be as light and soft as possible, with white on the ceiling and light tints on the walls as the best aid to illumination. A darker dado can be used, providing the reflection factor of the wall color is not more than twice that of the dado. This will look neat and be easy to keep clean. Grayed colors are used as they are more restful and more harmonious. In corridors, rest rooms, etc., use colors which provide a change of pace. Cool colors, such as blue and green, are calming. Warm colors, such as tan and coral, are stimulating. Blue stippled on the windows may reduce the temperature a couple of degrees, but the psychological impression emphasizes the difference, and the worker feels cooler. Wall colors with tints of blue and green have the same effect. In rest rooms, tints of coral and rose seem to please

Use UBS COMPOUNDS for BACKING, COMBINING, COATING

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● In Combining operations, UBS developed Buna Latex Compounds provide a positive one-coat bond, good flexibility, and excellent moisture resistance and ageing qualities. Outstanding in this field is UBS's Formula CT-456-B, which has been extremely successful on the can drier machine.

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Gives fabrics a good start on their career for Army, Navy or civilian use. For DRUMMOND Soap contains no filler of any kind . . . It's a high-body product of low alkali content . . . It has a high binding quality that results in minimum flocking . . . Saves on steam and water because it rinses easily and completely . . . Better fulling and scouring . . . Leaves fabric perfectly clean with softest feel, better hand, brighter colors and whiter whites . . . Want to try it? Just write us today for a free working sample and test DRUMMOND Soap on your own goods.

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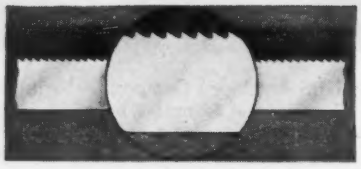
in Sinker and Divider Heads



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No need to send sinker and divider heads back to factory when you have Thomas & Skinner Slot Cutters. This simple and valuable tool enables you to clean out and reseat slots right *in your own mill.* And you can keep a machine in operation—with only the head you are working on out of production for a few hours.

Thomas & Skinner Slot Cutters are made from high grade tool steel, tempered and ground to exact gauge of the sinker. Comes in a leather carrying case. Every fixer should carry one. It is necessary to send sample sinker when ordering slot cutter.

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most women, while blue is the choice of most men.

Accidents in the Worker's Home

"IN THE TEXTILE INDUSTRY the time lost by workers because of accidents in the family is probably greater than the time lost because of accidents in the plant," stated E. W. Winkler, North Carolina State College.

"Management is too often inclined to take the attitude that the company has no responsibility in what happens off the job," Mr. Winkler continued. He pointed out that the loss of time by a skilled worker means financial loss to the company, and that even well-meaning workers often do not have the ability, experience, or time to organize a home safety program.

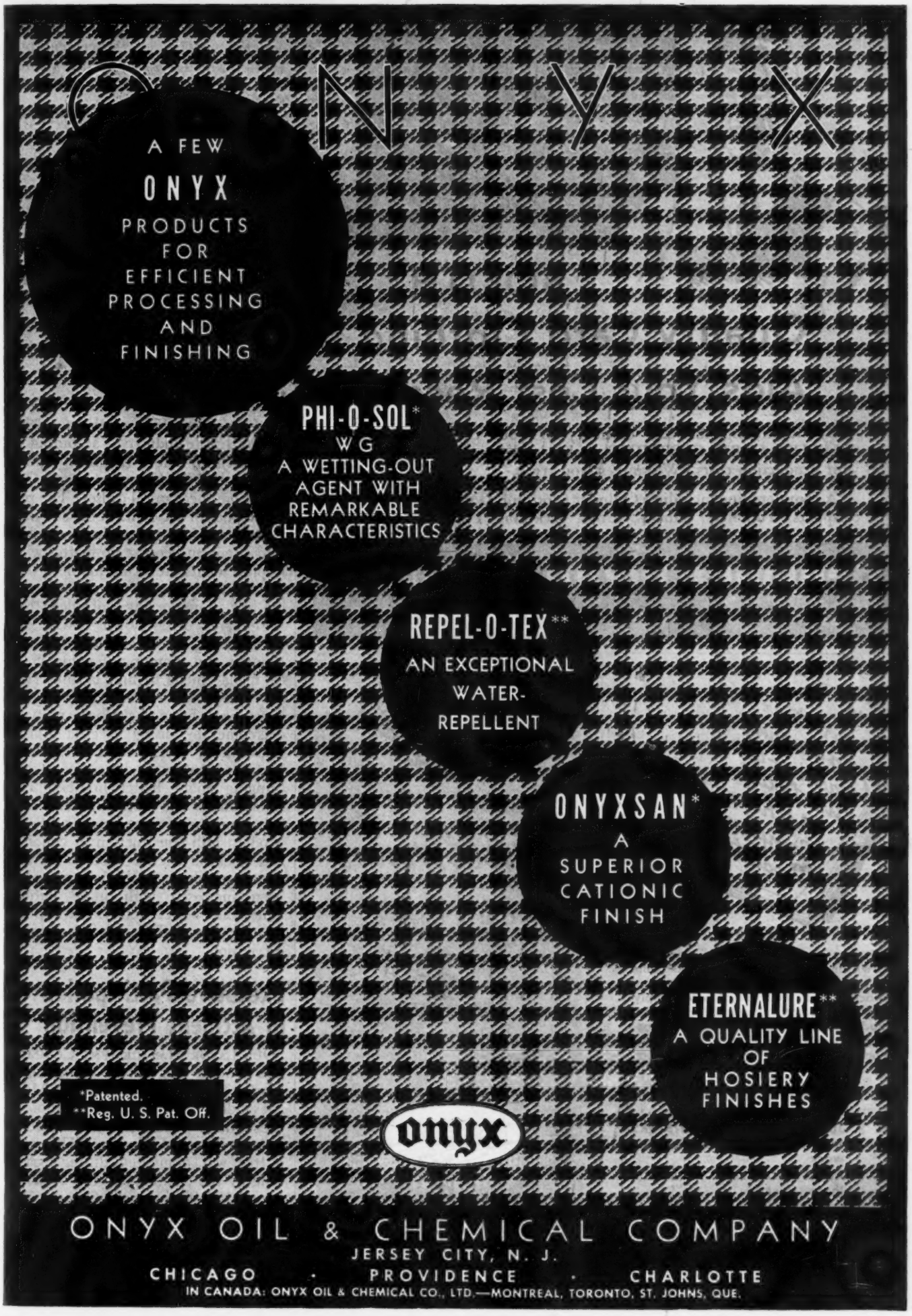
Many community organizations are not safety conscious, Mr. Winkler explained. The average textile plant, on the other hand, is organized for safety which can be expanded to include home and community safety, has access to safety literature, and has safety-trained men who could lead the off-the-job safety program.

Supervisor's Part in Accident Prevention

IN ONE OF OUR PLANTS where the frequency rate had for several years averaged from 28 to 38, we inaugurated a ten-minute session devoted to an explanation of accident statistics, theory of occurrence, and education of supervisors on the preventable nature of accidents, as part of the regularly scheduled monthly meetings. Very little else was done at that time, explained A. C. Phelps, personnel director, Brandon Corp., Greenville, S. C., or for several months later. This was started in July, 1943. The plant will finish up the current accident accounting year with not more than three lost-time mill accidents, a reduction to less than ten percent of the five year average. This was not the only measure taken. The developed conviction of the individual supervisor that accidents are preventable, was mainly responsible for the inauguration of a successful safety movement in that plant.

In order to attain safe production, the supervisor must know many things. Some of these are:

1. The mechanics and requirements of production—in other words, the job itself.
2. The limitations of his workers in a physical sense.
3. The psychology of the individ-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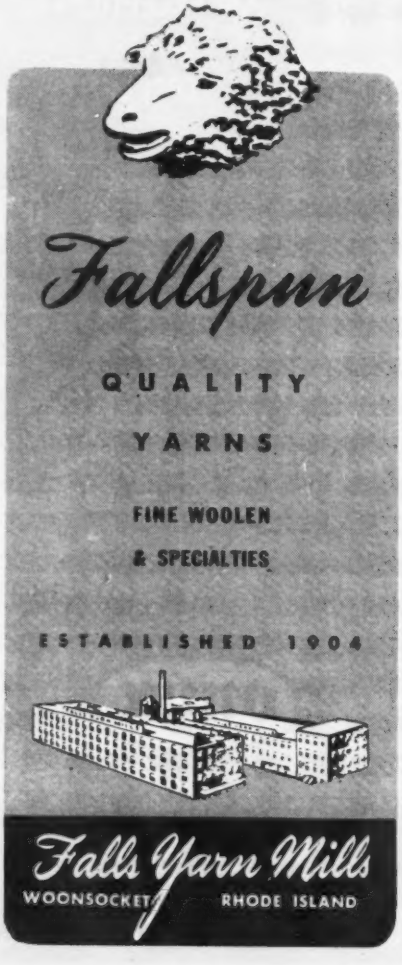

uals comprising his working force.

4. The plant safety organization and the various aids to accident prevention which it is equipped to render.

5. The care, guarding, and maintenance of machinery.

6. Knowledge of how to plan for accident prevention.

7. Some knowledge of causal analysis and record keeping.

8. Sufficient knowledge of first-aid to enable him to minimize the injury effect of minor accidents.

9. Sufficient general knowledge of modern industrial relations to enable him to imbue the individual worker with "safety consciousness."

10. Proper training methods.

Textile Progress in Safety

"LESS THAN 25% of the accidents in the textile industry," according to Neil Nelson, Safety Engineer, American Mutual Liability Insurance Co., "are from mechanical causes. The predominance of accidents in the so-called non-mechanical group demands definite attention because no matter what improvements are made in the guarding of machinery, if the factors governing this group are not controlled, then the progress of safety will stall."

According to Mr. Nelson, more thought and planning is being given by management to mill layout. Hazards produced by manual lifting of heavy warp beams have been partially overcome by using electric hoists. Location of machines is better proportioned to room dimensions, thus bringing about better housekeeping, surely one of the most important contributions for safer working conditions. Modern mill construction of concrete and steel has been a boon to maintenance problems. Window area has been increased with more natural light and better ventilation. Good lighting is a definite ally of accident prevention.

Executive Participation in Accident Prevention

"OUR LABOR MANAGEMENT COMMITTEE is not a 'war baby'," according to Martha Pittenger, of Avondale Mills, Alexander City, Ala., and author of the current "Old Man Carelessness" series in TEXTILE WORLD. "This committee was originated during peacetime by the chairman of the board of Avondale Mills, Donald Comer. We were then thought of as a mill committee.

"To date the safety record of the Bevelle plant is three million man-hours without lost-time accident; but

If you want!

If YOU want a versatile wetting agent —

If YOU want one that does both a good wetting and rewetting job . . .

If YOU want one that's stable in strong alkaline solutions up to 4% caustic soda (8.56°Tw.) . . .

If YOU want one that's particularly effective for Vat Dyeing and Sanforizing . . .

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NOPCO 2272-R is economical, too, because of its rapid wetting or rewetting at low concentrations and wide temperature ranges. Try NOPCO 2272-R at our expense.

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Send enough NOPCO 2272-R for a trial run.

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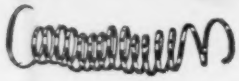

Left: before re-conditioning

Right: After re-conditioning

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we have not dreamed up this record—we have worked for it—and we are striving to make even a greater record."

Some of the actual benefits resulting from the members' suggestions to prevent accidents are:

1. Safety guards have been put around looms at the end of the alleys.
2. A safety guard has been put at the box platform of the quill stripper. Motors also have safety guards.
3. Unprotected fast-motion shafts in the picker room have a red safety cap which stops the shaft when coming in contact with a person's clothing.
4. Self-oilers have been established on all line shafting.
5. Holders for lap pins have been put at the back of the cards.
6. Slanting window sills have been put in the spinning room.
7. Larger bottle containers have been placed throughout the mill.
8. Fans have been put in several departments.
9. Smaller wheels are to be put on trays holding oil drums. This will prevent the oiler having to stand on the slippery rim of the tray and will also save oil.
10. Chains have been put at the runway leading from the mill and are put up when it rains so that the employees will use the steps, thereby preventing falls.

Spinning Room Bottlenecks

(*Continued from page* 143)

of the old-fashioned oil can. This method cuts the oil cost considerably and achieves better results. One filling of the oil bottle lasts for quite some time.

Materials handling is still another bugaboo that cuts deeply into production time. Any unnecessary step is wasted effort and only increases the waste of energy and time.

In one instance, doffers put yarn into boxes which, when full, were piled one on top of the other in front of a frame. When there were ten of these boxes on hand, the yarn hand would take a platform truck, pile the boxes on it five high in two rows, and then take the truck to the elevator for shipment to the weave room.

To eliminate this duplication of handling and effort, the yarn hand was instructed to put the platform trucks in front of the frame. The doffers piled the yarn boxes upon the trucks. When they were loaded, the yarn hand pulled them away without any additional effort. There was only one handling of the boxes from doffers to shipment.

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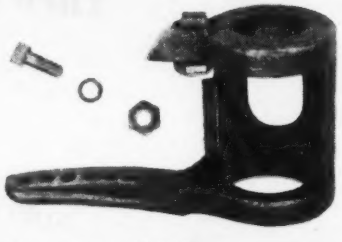

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1. Replaces other sizing materials which may be difficult to obtain.
2. Easily prepared.
3. No softeners required.
4. Runs clean on the machine—no foam.
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OUR LINE OF TEXTILE STARCHES, GUMS, DEXTRINES AND SPECIALTY MATERIALS ALSO INCLUDES:

W GUM D *and* VICTORY K2W GUM
For sizing staple synthetic yarns and blends.

KAC #4 *with* B2 *or* SUSSEX GUM
For use in vat dyeing... higher color yield.

96R *and* VELVEEN XX
For sizing cotton.

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For sanforizing and weighting.

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For laundry resistant finishes.

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For starchless finishes.

SHO-PAL THICKENER *and* BINDER
For pigment printing and pigment dyeing in water dispersions... excellent wash fastness.

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PACKAGE Dyers
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and Acetate Yarns
18 Years' Experience

We wind viscose or acetate yarns from CONES or CAKES, dye it in PACKAGE form (in batches up to 1000 lbs. per color), and ship on Atlantic Dyetubes, or rewound on spools; paper tubes or cones.

Our Skein Dyeing Department handles all types of colors, where yarn is supplied in skein form.

Atlantic Rayon
CORPORATION

Dyers and Converters of Synthetic Yarns for all Industries

Plant at Providence 1, Rhode Island

NEW YORK OFFICE
EMPIRE STATE BLDG.,
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News of the month

Executive Changes in TRI. Decision to place major emphasis during 1945 on fundamental and applied research and upon the publication of a scientific journal was reached at a meeting of the board of directors of Textile Research Institute, Inc., held Jan. 19. The resignations of Fessenden S. Blanchard and Douglas G. Woolf, president and first vice-president, respectively, were announced. Mr. Woolf desires to sever his connection with the Institute in June to remove his family to California and devote his time to writing, in line with plans which he has long had in mind. Mr. Blanchard desires to return to the industrial field. The board asked Mr. Blanchard and Mr. Woolf to continue on the staff until June 30, the former to devote his time to membership work, and the latter to the direction of the economic study being conducted at Princeton by the institute for the Textile Foundation. Because of these resignations, the board appointed Vice-President Harold DeWitt Smith as president.

Duck Output Increasing. December output of duck showed an increase of 6% over November according to WPB figures. A further gain of 3% in January was expected to result from schedules in use. Carpet mills have answered the Army's appeal by converting to duck production for a second time. They are scheduled to produce 60% more duck in first quarter of 1945 than in similar period a year ago.

Liverpool to Base Cotton Futures on World Market. The Liverpool Cotton Association is advocating an early resumption of trading in futures at Liverpool, but with a new contract which, it is planned, will be based on the world market rather than exslusively on the American market.

Wool Auctions Nearing End. In mid-January it was said that there was about enough foreign wool in the government's supply to warrant three more auctions including the one scheduled for Feb. 14. It is understood that the wool owned here by the British government will not be offered. Some of the previously withdrawn wools are being reoffered.

Cotton Council Meets. The National Cotton Council held its annual meeting in Memphis, Tenn., last month with delegates from 17 states. The seriousness of postwar competition with other fibers was stressed by C. K. Everett of Cotton-Textile Institute. Oscar Johnston, president of the council, offered a three-point plan to restore cotton to a competitive price level. The council urged a revision of the method whereby OPA determines ceiling prices on textiles and recommended that the escalator clause be made a part of the law. Oscar Johnston of Scott, Miss., was again named president. Miss H. L. Wingate of Pelham, Ga., was named vice president to succeed Robert Coker, of Hartsville, S. C.; and William F. Neale, of Dallas, was named vice president to succeed Lamar Fleming, Jr., of Houston. W. Rhea Blake was reelected executive vice president and secretary.

Rayon Output up 9% in 1944. Production of rayon, both yarn and staple fiber, by United States mills totaled 723,900,000 lb. in 1944, states the *Rayon Organon*, published by Textile Economics Bureau, Inc. This output exceeded the previous record 1943 total of 663,100,000 lb. by 9%. Due to the greatly expanded production of rayon tire yarn to over 115,000,000 lb., viscose plus cuprammonium production increased 13% to 383,500,000 lb. in 1944. Acetate rayon output increased 5% to 171,700,000 in 1944. Rayon staple fiber production gained 4% to a new high figure of 168,700,000 lb.

Velon in Film Form to Compete With Fabrics. Raincoats so thin and light that they can be slipped into a woman's hand-bag, and inexpensive awnings that neither wear out nor fade may be made from Velon film in the postwar period, according to The Firestone Tire & Rubber Co.

Urges One Variety Community. North Carolina cotton mills, which operate about 25% of the cotton spindles in the United States, use from 40% to 2,000% more cotton of each staple length than is produced in that state, according to Malcolm E. Campbell, Dean of the School of Textiles, N. C. State College, in a talk before the cotton conference at the college

★ A smooth operating feature you would expect from speed-control pioneers

No strains... no distortions

when you change speeds with a

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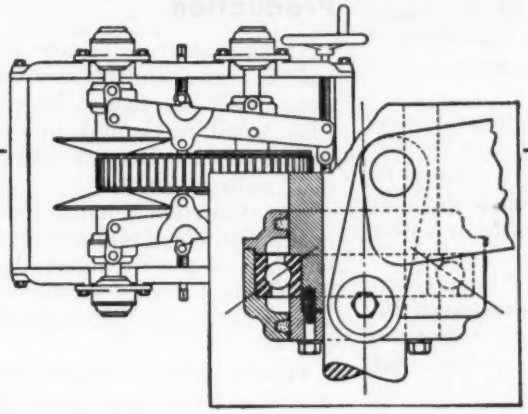
VARIABLE-SPEED TRANSMISSION



FLEXIBLE BEARING SUSPENSION

★ In the Lewellen Lever and Link Suspension the link center pivots upon a boss which is exactly central with the bearing. IT IS SELF-ALIGNING IN EVERY DIRECTION. The thrust load upon the bearing is equally distributed without regard to the position of the discs, as the support is always at the center of the bearing. Discs are moved by a positive, direct pull of the lever through floating links upon the thrust bearing housing secured firmly to disc hub. This insures an even distribution of the load upon each ball in the bearing at all speeds, or while changing speeds. When the lever is moved outwardly in changing speeds, the entire disc is moved through the lever and link, without depending upon the wedge action of the belt to force the discs apart. Speeds are changed under full load without strain or distortion. *Lewellen's more than 45 years' experience in specialized speed-control engineering is responsible for this highly important, patented feature. There is a Lewellen Transmission to meet your need. Wire, phone or write for complete information!*

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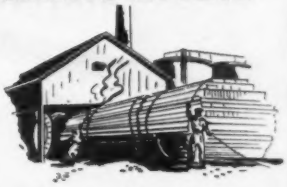
COLUMBUS, INDIANA

Wood SERVES IN WAR CONSTRUCTION

Wood goes up fast . . . *wood helped speed the war effort.* Wood will do the same for you when you shift to peacetime construction.

Treated Wood COMBATS DECAY AND TERMITE ATTACK



Wolman Salts* preservative has been proved in service. The performance of hundreds of millions of feet of lumber treated with it testifies to the worth of Wolmanized Lumber*.

Pressure Treatment ASSURES CERTAIN PROTECTION

Pressure treatment drives the Wolman Salts solution deep. Fiber-fixation holds it there. You're safe when you specify Wolmanized Lumber.

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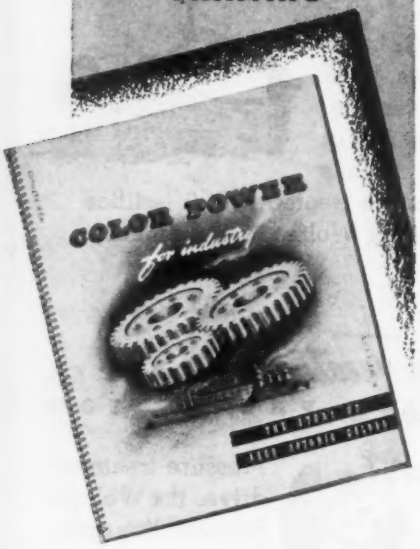
It's a
NEW
SCIENCE
Optonics
THE FUNCTION OF
COLOR
IN INDUSTRIAL
PAINTING



SEND FOR THIS Booklet

The Optonic Color System is based on the newly developed science of using color FUNCTIONALLY in industrial painting — to improve production, safety conditions, and employee morale. It is fully described in a new book — "Color Power for Industry." A note on your business letterhead will bring you a copy with our compliments.

THE ARCO COMPANY
CLEVELAND, OHIO • LOS ANGELES, CALIF.

ARCO
Paints for Industry

last month. Much of the cotton grown in North Carolina, he said, is not of sufficiently high quality to render it useful to the local mills, and it should be improved by the One Variety Community program.

Stainless Steel Hosiery. According to Walter Tower, president of the American Iron & Steel Institute, stainless-steel hosiery is now under experimentation in the metallurgical laboratories of leading steel companies.

More Money for Research. The New England Synthetic Fiber Foundation to promote education, research, and training in the field of synthetic fibers has been established under the leadership of a group of New England textile executives. The Rhode Island School of Design is the beneficiary of the first $500,000 of the trust.

Three-Phase Emulsion. Aridye Corp. announces assignment of patent by Norman S. Cassel covering a three-phase emulsion which is a step beyond the two-phase emulsions previously known to textile chemists.

Acetate Elongation Improvement. Improvement of extensibility of stretched cellulose acetate or other cellulose filaments without material loss of tenacity, is claimed in U. S. Patent 2,368,154 obtained by Celanese Corp. of America.

Quartermaster Corps Overcomes Tarpaulin Shortage. Inability to secure sufficient production of cotton duck for tarpaulins has resulted in the QM adopting a paper-and-burlap laminated tarpaulin for a substantial part of its total requirements.

Herringbone Twill Replaces Webbing. Inability of the Army QM to procure sufficient webbing in narrow widths to fulfill emergency requirements for buildings has resulted in the following substitution: Herringbone twill is cut in strips of ¾, 1, and 2-in. widths, folded, and used to bind the cut edges of strips of duck, which in turn are used to replace webbing in such equipage as leggings, knapsacks, ammunition-carrying bags, packs, etc.

Sees No Danger from War Surplus. L. R. Fleming, former director of the Textile Division of the Office of Surplus Property, Treasury Department, told the annual meeting of the Wholesale Dry Goods Institute at New York last month that he believed only one quarter of the estimated war goods surplus of $100,000,000,000 will be of use to the civilian market, and he did not believe the consumer goods share would hurt the economy.

BOOSTING EMPLOYEES' Morale

Will Boost Duck Production

"Immediate and vigorous steps" to end the critical shortage of cotton duck were urged last month by Governor Ellis Arnall, of Georgia, in a letter to mayors of 24 Georgia cities where duck mills are located.

The Governor's letter followed a meeting at which military officials and members of the Volunteer War Services Council studied means to recruit new workers and eliminate absenteeism.

Harry Thornton, regional director of the War Production Board, told the meeting that current cotton duck production was 2,250,000,000 yd. below military needs.

Dental Service at Vernay Mills

Verney Mills, Manchester, N. H., have inaugurated a dental hygiene service, the first of its kind in the Granite State, for the purpose of promoting oral education and prevention of diseases among employees from infected teeth. The service, including a $5,000 laboratory, was praised by Gov. Robert O. Blood, a medical doctor by profession, who expressed the hope that many more industrial plants will install similar units.

Modena-Ranlo Plants Make Good Record

Eleven Army field ambulances are being sponsored by the Modena-Ranlo plants of the Burlington Mills at Gastonia, N. C., as a result of the sale of E bonds which closed recently. According to reports by Hugh Stroup, personnel director of those plants, the employees purchased $32,575 worth on a quota of $25,000. Sales at the Modena plant totaled $19,925 and at the Ranlo plant, $12,650.

Director Stroup stated that there

DAVIS AND FURBER

MODERNIZATION CAN BE STARTED NOW

PICKING, CARDING AND SPINNING departments are good places to begin post-war modernization, because here DAVIS & FURBER equipment offers quick results with a comparatively small investment.

As announced in the October DAVIS & FURBER NEWS, priorities on textile machinery are no longer necessary. Our complete line of machinery is now available to the textile industry.

Claim your place now on the list for new machinery

With new PICKERS, CARDS AND SIMPLEX SPINNING FRAMES, upkeep will be greatly reduced owing to the larger production of our modern machines—resulting in important labor savings.

DAVIS & FURBER products have given a splendid account of themselves in the war program. They have been tried and proved on the most exacting and critical war work.

Yours for faster, smoother textile operation

DAVIS & FURBER

NORTH ANDOVER MASS.

Faster and Better TEXTILE EXTRACTION *for Every Material*

TOLHURSTS have proven themselves time and again the fastest, most efficient extractors in the textile field. For every need, for every material, the right Tolhurst will do it better and faster.

TOLHURST "SUPREX"—For cotton raw stock this 48" extractor has proven its worth, in speed of extraction, economy and production. Smooth, efficient operation is assured by "SUPREX" suspension principle. Higher rotational speeds mean quicker and greater extraction. Timer control eliminates guessing when load is finished.

TOLHURST "CENTER-SLUNG" Every feature of the "CENTER-SLUNG" has been designed to produce greater volume in shorter time. Unexcelled for underwear, tubing, hosiery and other fabrics. The exclusive center-of-gravity basket suspension enables this machine to handle unbalanced loads and assures smooth operation. Available in 40", 48" 60", 72" basket sizes.

TOLHURST "SOLID CURB" Designed for rapid handling of small loads, the Tolhurst "SOLID CURB" Extractor is ideal for yarn, hosiery and other textiles. Motor drive. Basket sizes 20" and 30"

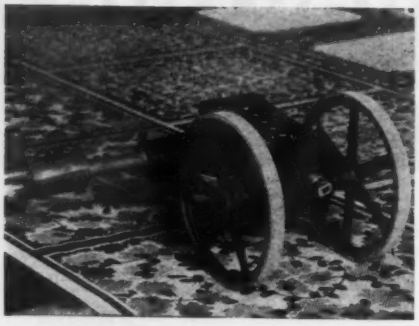
Write for detailed literature

ARMY E NAVY

Tolhurst CENTRIFUGAL DIVISION

AMERICAN MACHINE AND METALS, INC.
EAST MOLINE, ILLINOIS

Controlled Production



on Textile Machines

PRODUCTIMETER

Lineal Measuring Counters installed on your textile machines solve one of your most important problems . . . that of securing accurate count of production in feet or yards . . . they help maintain exact schedules . . . provide a check for operating efficiency. Their installation is the first step toward accurate knowledge of production costs.

Model illustrated: 5-T-8, rugged ball bearing unit for fabricated materials made in rolls or sheets.

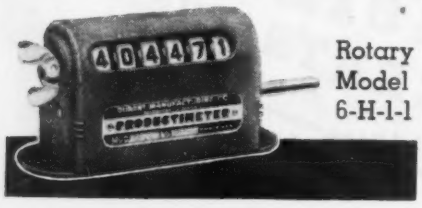
Other models in the Productimeter line for application on various processes . . . braiding, coating, combing, doubling, drying, folding, inspecting, winding, dyeing, bleaching, weaving.

Send for Textile Counter Catalogs

Pick Counters, No. 5
Yardage Counters No. 6
Revolution Counters No. 8

DURANT MFG. COMPANY

1931 N. Buffum St. Milwaukee 1, Wis.
179 Eddy St. Providence 3, R. I.



Rotary Model 6-H-1-1

had not been a lost-time accident at the Modena plant since Feb. 26 and none at the Ranlo plant since July 9. Absenteeism is at a very low ebb at both mills. There have been no idle spindles at the Modena plant, it was said, since July 24.

N. C. Fund Tops Goal

The North Carolina Textile Foundation has exceeded its $700,000 goal for the fund to finance a 20-year program of textile education and research at North Carolina State College, Raleigh, N. C.

Spurs Bond Subscriptions

Royal P. Little, president of Textron, Inc., donated ten $100 bonds which were awarded to employees whose names were drawn from a barrel in connection with the Sixth War Loan drive at the Suncook (N. H.) Division of the corporation. He had offered to donate $1,000 for every $1,000 oversubscribed in the mill's $40,000 quota.

Free Course on Color in New York

The second semester of a class on "Color and Colorants" is in progress Thursday evenings at the Textile Evening High School, New York. Tuition is free. The lecturer is William H. Peacock, assistant manager of the Application Laboratory, Calco Chemical Division of American Cyanamid Company. Discussions cover color matching, judgment of color effects, color standards of Munsell, Ostwald, and other systems, color in printed and woven design, color harmony, and the use of color in merchandising.

Westinghouse Executive Discusses Postwar Wages

Wage scales and market prices should be allowed to find the levels that will produce maximum employment and maximum national income through the bargaining processes of private industry, F. D. Newbury, vice president and economist of the Westinghouse Electric & Mfg. Co., said recently.

Explaining that his opinions on postwar wages were his own and not necessarily those of his company, Mr. Newbury told a production conference of the American Manufacturers Association. "All of the grand and impressive predictions of postwar employment and national income, currently publicized, may have no more weight than a film of cobweb floating in the air, unless a realistic wage and price policy, under which private industry can provide satisfactory levels of employment, is adopted and put into effect very soon. Actually, a wage scale that is too high can reduce employment and total purchasing power."

Gets Safety Award

Ware Shoals Mfg. Co., Ware Shoals, S. C., Fabricating Division, was presented with the national safety award on Jan. 5 in recognition of its exceptional record in accident prevention. Maj. H. E. Hyatt in charge of safety training, Ordnance Branch, War Dept., made the principal address. R. B. Polk of Liberty Mutual Insurance Co. made the presentation.

Recent "E" Awards

Among recent awards of the Army-Navy "E" pennant to textile mills are the following:

Rowan Cotton Mills Co., Salisbury, N. C.

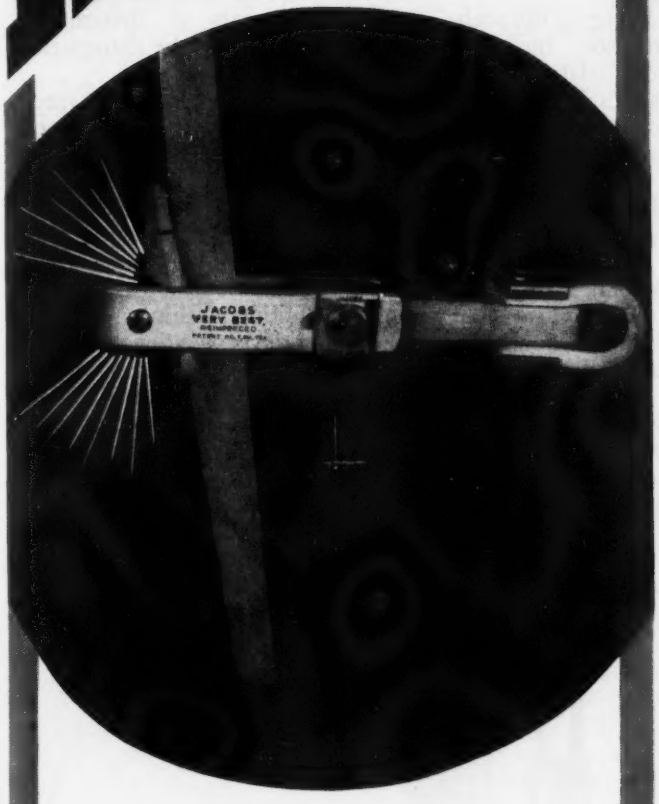
Everlastik Knitting Mills, Philadelphia, Pa.

For Community Center

Reeves Bros., Inc., manufacturers and sales agents for cotton textiles, have given $100,000 for the proposed Reeves Memorial Community Center building in Mount Airy, N. C.

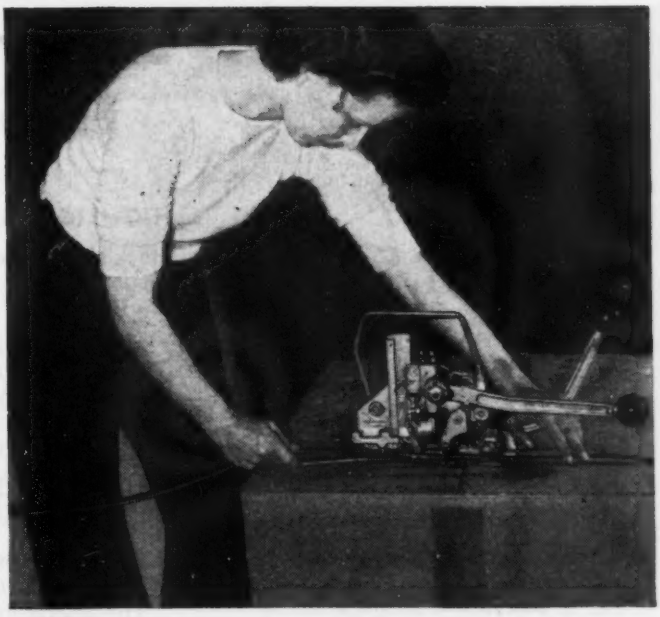
***SIXTEEN HOLDERS** of lucky numbers were each awarded with a $25 War Bond at a Munsingwear bond drawing recently. Each Munsingwear employee who purchased a bond during the 6th War Loan Drive had received a ticket which automatically entered his name in the $400 "jackpot". Munsingwear's drive netted $126,541.*

IMPACT



Jacobs Reinforced VERYBEST Lug Straps... can withstand the TERRIFIC IMPACT of modern looms... especially developed for increasing loom speeds.

E. H. JACOBS MFG. CO.
EST. 1869
DANIELSON, CONN. CHARLOTTE, N. C.



Every Shipment Deserves

PROTECTION

BY ACME STEELSTRAP AND UNIT-LOAD BANDS

When you reinforce individual shipping packs and skid-loads with Steelstrap . . . and brace them for shipment with Unit-Load Bands . . . you have provided the protection that delivers your products safely.

Simply applied and efficient, these Acme products have met tests of strength and durability in war times so successfully that in post-war shipping, applications of Steelstrap and Unit-Load Bands will be standard practice in many more shipping departments.

Right now, Steelstrap and Unit-Load Bands are fully employed in reinforcing and bracing shipping packs of every kind which hold vital war materiel and essential civilian goods. When that job is done, both products will be available to make your post-war shipping packs "Bound to Get There."

ACME STEEL COMPANY
2838 ARCHER AVENUE, CHICAGO 8, ILLINOIS

ACME STEEL CO.
CHICAGO

Only 1 in 5 Are Women in *Alabama* Industries

IF you are making postwar plans to move your sewing or your knitting mill to a location offering the best in manufacturing advantages, these figures will have significance for you. Taken from the Census of Manufactures they show the great preponderance of men over women workers in Alabama industries. They fairly reflect the great reservoir of women labor now available for textile employment:

Wage Earners in Manufacturing—1939

State	No. Males	No. Females	Ratio—Males to Females
Alabama	101,569	24,646	4.12:1.00
Connecticut	175,394	75,795	2.32:1.00
Georgia	112,417	59,668	1.88:1.00
Illinois	482,618	160,900	3.00:1.00
Massachusetts	333,053	162,535	2.07:100
New Jersey	314,811	155,843	2.02:1.00
North Carolina	185,158	100,575	1.85:1.00
Pennsylvania	648,212	243,988	2.80:1.00
Tennessee	98,712	42,887	2.30:1.00

In many mills in Alabama, women workers are making outstanding production records because of their superior intelligence, their adaptability to textile pursuits. War plants, too, have used hundreds of women on sewing operations and they are now skilled workers.

Other favorable factors include the availability of skilled mechanics for maintenance and repair; abundant low-cost power and cheap fuels; the rapidly expanding markets in the Southeast; favorable tax laws, and the cordial and co-operative attitude of government and communities.

Specific confidential studies will be made for prospective sewing and knitting industries on request. Write Dept. T, ALABAMA STATE CHAMBER OF COMMERCE, Montgomery 1, Alabama.

ALABAMA
STATE PLANNING BOARD
Montgomery 5, Alabama

Slater RESEARCH Unit Houses Unique Devices

HIGHLIGHTS: Testing equipment utilizes electric strain gage to measure shock strain or other loads. Laboratory is located at MIT.

SOME OF THE LATEST DEVELOPMENTS in textile testing equipment can be found in the Samuel Slater Memorial Research Laboratory established last month through S. Slater & Sons, Inc., at the Massachusetts Institute of Technology. The laboratory is being operated under the direction of Prof. E. R. Schwarz who is in charge of the MIT textile division.

The laboratory is taking up the problems of load-deformation, time-temperature, and humidity relationship in fibers, yarns, and fabrics by means of new apparatus involving the application of electric strain gages, high-speed photography, and the use of such modern devices as the oscillograph and the photoelectric potentiometer recorder.

With this equipment, it now becomes possible to apply a load of a fraction of a gram for many hours and to record the resulting deformation or to apply hundreds of pounds in less than .001 sec. and still record precisely the load-deformation behavior.

For this latter work, impact testers have been constructed in which either a 25-lb. weight or a 500-lb. weight can be allowed to fall from a height of many feet to cause failure of the sample under shock load. The results of the test are obtained from an electric strain gage, the signals from which are amplified and registered on the fluorescent screen of an oscillograph. A specially designed, high-speed camera makes a record of the motion of a luminous point on this screen on a strip of film. The latter can be projected to give a tremendously enlarged image of the complete load-deformation curve; and the measurements of deformation, load, and energy can be conveniently and precisely made.

The machine, including the special shock-absorber base, weighs several tons and is guarded electronically for safety and operated by electronic controls from special control panels utilizing a number of relays, vacuum tubes, and other electrical equipment. Similar principles of operation are being applied to testing machines running at more nearly the conventional speed for testing textiles and for thus eliminating effects of friction, delay, and inertia.

Typical of this development work is the improved autographic recording compressional resilience tester which, by means of a specially designed cantilever support for the sample and suitable electric strain gages, gives a continuous chart of cyclic operations on a photoelectric potentiometer recorder.

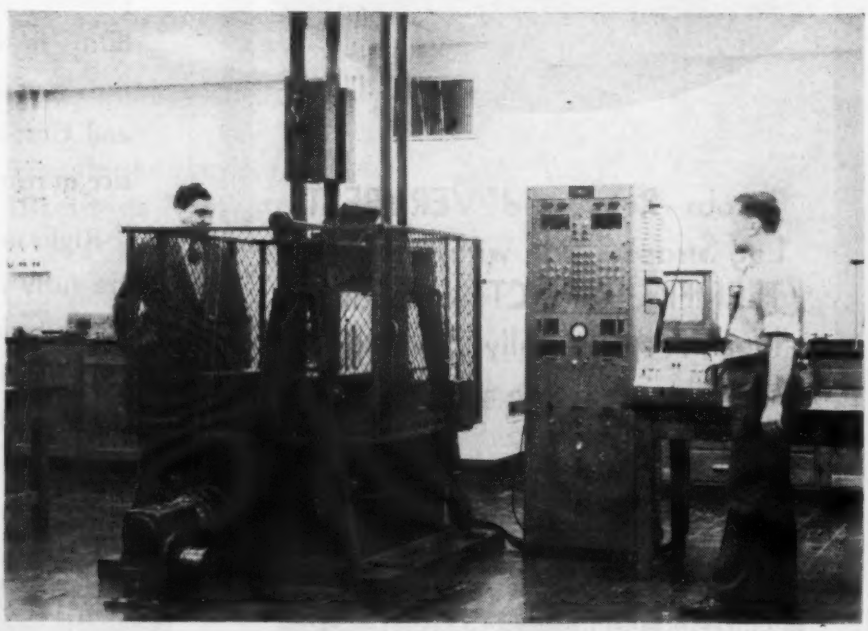
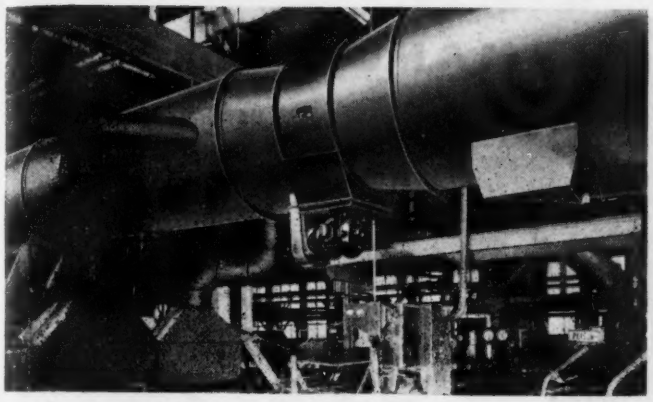


Fig. 1. This impact tester has proved valuable in development of parachute cords and webs.



The RIGHT FAN means BETTER PERFORMANCE

Any type of fan or blower will move air, and if it's large enough, move all the air you need. If it's the right fan for the job—however, it will move the air at LOW COST, and since a fan uses power day after day—year after year, that ECONOMY of operation can be mighty important.

"Buffalo" makes fans and blowers of all types—disk, centrifugal and axial-flow. Thus when "Buffalo" engineers recommend a certain type for YOUR job you can be sure that we are offering the fan which will do the job most cheaply. And remember—if there was one BEST fan for all jobs—we'd certainly concentrate on that one.

With sixty-six years of fan-designing and building behind us, you can rely on "Buffalo" recommendations. Sales engineering offices in all principal cities are ready to work with you.

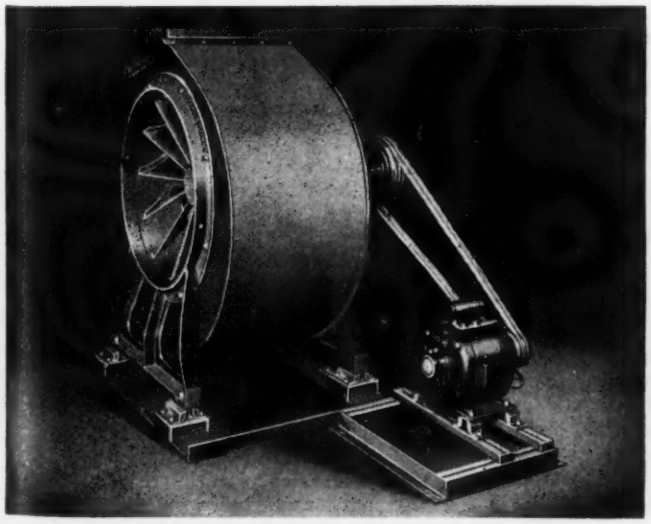
WRITE FOR BULLETIN

If you do not have our Installation and Maintenance Data Bulletin, write for a copy. Also, if you are interested in catalog on any particular type of fan we'll be glad to send it on request.

"Buffalo" "First For Fans"

Buffalo Forge Company
184 Mortimer St. Buffalo, N. Y.
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

fans to "fit the job"



3 reasons why Allen Type H.C. Warper Beams are "tops" for synthetic yarns

★ **Special Barrel Construction,** featuring Rock Maple Staves and cast iron inner heads give strength needed for warping synthetic yarns. Unbreakable Wooden heads secured by tie rods, steel shaft and steel faceplate give strength and flexibility otherwise impossible to obtain. High glossy finish will not splinter or snag yarn.

★ Before shipping, each type "H.C." Warper Beam is tested for balance on sensitive balancing ways. A smooth-running warp with a minimum of vibration is assured.

★ Strong construction plus perfect balance makes the type "H.C." Warper Beam a "natural" for high speed systems. Greater barrel and head diameters mean more Y.P.M. at fewer R.P.M.

Allen Company, 130-156 River Road, New Bedford, Mass.
Southern Representative, L. E. Wooten, Fort Mill, South Carolina

REDUCE LIGHTING MAINTENANCE WITH...

Here's a sure-fire way to reduce fluorescent lighting maintenance—install G-E Watch Dog Starters. Then it isn't necessary for your maintenance man to remove the starter each time he replaces a dead lamp. The Watch Dog remains in the socket. He simply resets it and forgets it. The Watch Dog will outlast the average life of ten 40-watt lamps under test conditions.

And that's not all. The Watch Dog is a *Johnny-on-the-Spot*. It stops annoying blink cold by completely cutting itself out of the circuit. Blinking cannot possibly recur because all flow of current is eliminated.

Our new booklet tells how to use fluorescent accessories for best lighting results. For your free copy write to Section G 254-109, Appliance and Merchandise Dept., General Electric Company., Bridgeport, Connecticut.

BUY WAR BONDS AND KEEP THEM

Hear the General Electric radio programs: "The G-E All Girl Orchestra" Sunday 10 P.M. EWT, NBC. "The World Today" news every weekday 6:45 P.M. EWT, CBS.

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MANUFACTURERS' BULLETINS

READERS interested in literature reviewed on this page may secure copies with time-saving coupon on page 244. Mark what you want on it and send it to Textile World, 330 West 42nd St., New York 18, N. Y. Be sure to give your name and company connections.

1. "Facts About Wool Oils," is the title of an article appearing in the December-January issue of *The Houghton Line*, published by E. F. Houghton & Co. This article points out the necessity of using a wool oil, tells what constitutes good oil, and gives facts concerning the acidity or alkalinity of such oils. Also the matter of saponifiables is considered.

2. Crease-proofing of cotton, linen, rayon, and various mixtures of these fibers with urea-formaldehyde and melamine-formaldehyde resins is discussed in Issue No. 3 of *For Instance*, published by American Cyanamid Co. It is stated that during 1942 over 40,000,000 yd. of cloth were treated by this process to render them crease-proof.

3. Spindle oils for cotton and woolen ring-spinning plants are covered in a 3-page article appearing in the December issue of *Oilways*, published by Standard Oil Co. of New Jersey, Pennsylvania, Louisiana, and Colonial Beacon Oil Co. Properties such as viscosity, flash point, and ability to withstand oxidation are discussed in this article.

4. Coated fabrics and the effects of synthetic rubber on them are discussed in the second of a series of articles appearing in the Dec. 15, issue of *The Royal Forum*, published by John Royle & Sons. Emphasis is placed on coated fabrics being used for military purposes.

5. High-speed extractors equipped with perforated stainless steel baskets, as used at Globe Dye Works, are illustrated and described in the December issue of *Electromet Review*, published by the Electro Metallurgical Co.

6. Development of a self-cooling water bag by the Army Quartermaster Corps is described in detail in the December issue of *The Rohm & Haas Reporter*, published by Rohm & Haas Co.

7. Materials handling of raw-stock and packaged yarn for packaged dyeing at the Statesville Cotton Mills, is covered in Issue No. 1, Volume 3 of *Cleveland Crane Graphic*, published by The Cleveland Crane & Engineering Co. A one-ton hand-propelled crane with electric hoist is provided for the package dyeing department. The crane used for handling raw-stock is of 3-ton capacity and completely motorized.

8. "Textile Plant Modernization" is the title of a leaflet offered by Lockwood Greene Engineers, Inc. This folder illustrates the many mills that have been designed by this company and gives details which call for consideration by textile manufacturers in placing their plants in the most efficient position for postwar competition.

9. Continuous peroxide bleaching processes are described in a 24-page booklet just issued by E. I. du Pont de Nemours & Co. The booklet details both pictorially and editorially the application of the continuous rope system and the continuous open-width system of peroxide bleaching.

10. Industrial humidifiers intended for knitters and weavers are described in a leaflet being offered by Stanley Wertheim. These humidifiers may be easily moved to different sections of the mill.

11. Manufacture of worsted yarns and fabrics is described in a well-illustrated booklet entitled "Naphthlated Wool Worsteds—Fleece to Fabric," recently issued by Arlington Mills for the use of store training departments, textile educational groups, and personnel. William Whitman Co., selling agents for Arlington, have just issued a calendar containing photos taken in the mill showing many of the worsted operations.

12. "Getting the Most from Winding," is the title of No. 48 of a series of folders being offered by Universal Winding Co. Such items as bobbin clips for No. 90 winding machine, information on how to avoid soft noses on filling bobbins, oiling of the paraffin attachment for Roto-Coner, and similar items are covered in this issue.

13. "Corrosion" is the title of a 54-page publication issued by the Interna-

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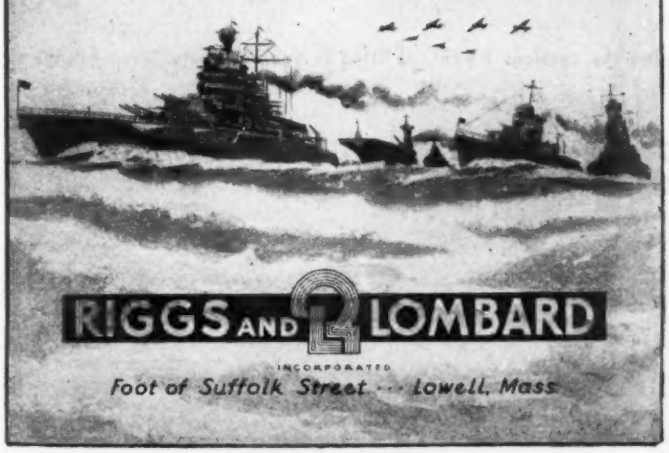

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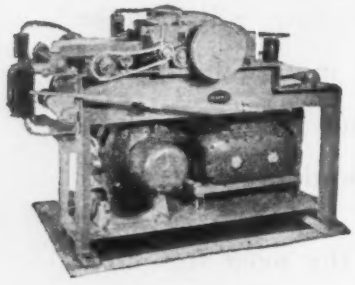
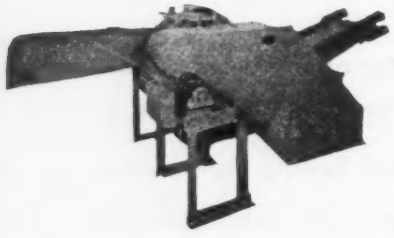


NO. 9S, cuts continuous fibers, wet or dry, into accurate lengths —in making rayon staple, or for blending with other fibers.



NO. 1F—is used to cut thread waste, or other tangled fibers; to cut cloth for shoddy; in making wiping waste; etc.

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tional Nickel Co. which is available for designers, engineers, or other metal users. This booklet contains a comprehensive analysis of corrosion principles, enabling the users of metals to obtain good working knowledge of corrosion so that they may secure maximum equipment-life and minimum maintenance-costs.

14. Textile equipment such as knitting machines, dyeing machines, boarding equipment, loopers, seamers, and supplies as offered by The Morris Speizman Co. have been listed in a catalog offered by this company.

15. Materials handling equipment, as offered by Lewis-Shepard Products Co., is covered in catalog No. 22. The catalog covers all types of equipment such as cranes, hand trucks, lift trucks, pallets, stackers, and many labor-saving devices.

16. "Fundamentals of Industrial Electronics" is the title of a book being offered by General Electric Co. This material was prepared by G. M. Chute, application engineer, and comprises a series of eight articles which have appeared in publications and which describe in great detail fundamental principles involved in the study of electronics.

17. Uses of compressed air are covered in catalog 1011 being offered by Ingersoll-Rand Co. The booklet illustrates and describes how compressed air may be used for operating reciprocating air-tools and the various purposes for which the tools may be used, and uses of compressed air about industrial plants.

18. A V-belt conversion chart and price list for fractional horsepower belts has just been issued by The B. F. Goodrich Co. The size and conversion data on standard "O," "A," and "B" section belts are given.

19. Mill engineers will find a new catalog No. 71, being offered by Micro Switch Division, of interest to them in designing various types of electrical control installations about mills.

20. Automatic filters of the mechanical type for removing solids from all kinds of fluids, and those of the positive hydraulic cleaning type for removing sand, metal chips, and abrasive wheel particles from liquids are described in a booklet entitled "Quick Facts," issued by Cuno Engineering Corp. Uses for these filters for machine tools, for gas and diesel engines, for blowers and compressors, and for burners and combustion control are covered in detail.

21. A Leather Belting Manual has been issued by Graton & Knight Co. This 56-page manual offers data, charts, and specifications on picking the right leather belt for the job, figuring belt dimensions, comparing the efficiency and cost of multiple V-belt drives and flat-leather automatic tension drives, and much other information pertinent to power transmission.

22. "Spotting & Centering Drills," is the title of a leaflet offered by Chicago-Latrobe Twist Drill Works. This leaflet contains information on accurate centering and correct drill pointing.

PASTE IT ON A POSTCARD

This mailing coupon is a convenient size to paste on a penny postcard. **Circle the numbers of the catalogs you want** which correspond to the numbers on the descriptive paragraphs. Fill out the coupon **legibly** and **completely.** Paste it on a postcard, or put it in an envelope if you prefer, and mail it to Textile World, 330 W. 42nd St., New York 18, N. Y.

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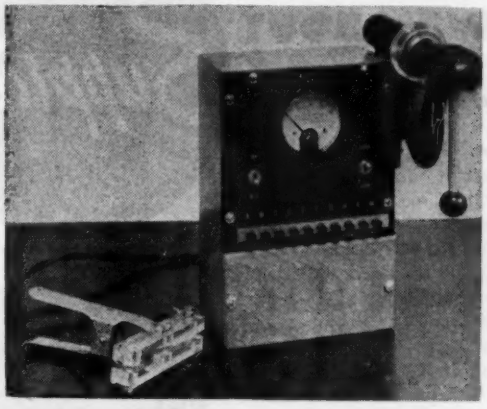

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PEQUOT SHEETS AND PILLOW CASES

WHERE PEQUOTS ARE FINISHED

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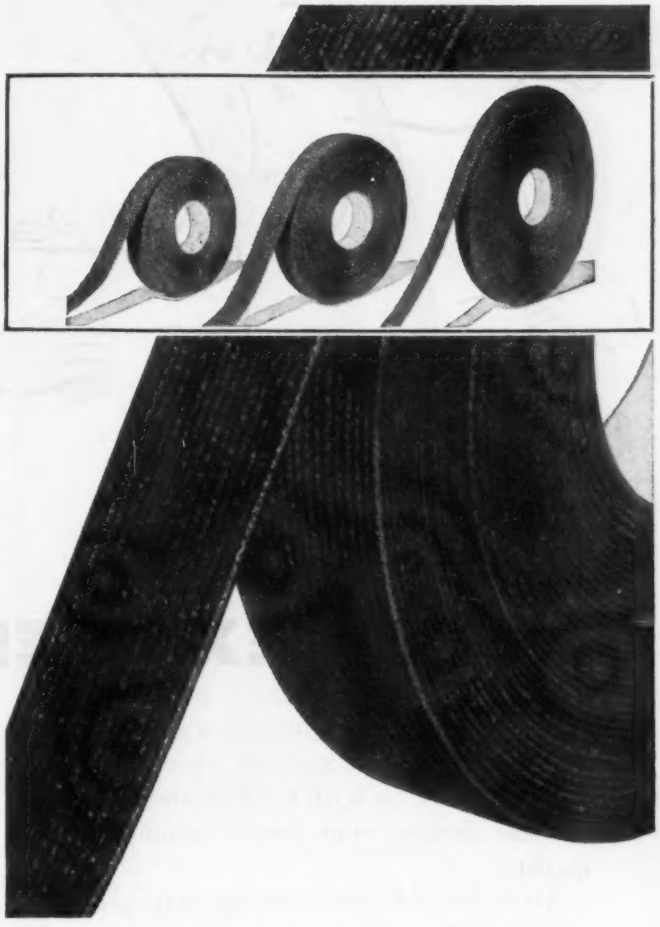

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NEWS ABOUT Suppliers

Jordan Mfg. Co., at one time part of the U. S. Bobbin & Shuttle Co., at Monticello, Ga., has been purchased by the Monticello Bobbin Co. and will be operated with the following officers: President, C. G. Stover (for 20 years sales representative of Corn Products Co. in Georgia and Alabama); vice-president, Julian S. Harris, of Charlotte, N. C. (vice-president of Atlanta Belting Co.); secretary, Lt. Edw. H. Branch (also with Atlanta Belting Co. and now in the Armed Forces); assistant secretary, Mrs. Lollie Bell Jordan (formerly with Jordan Mfg. Co.); treasurer, Ernest D. Key (president of Atlanta Belting Co.). Messrs. Harris, Branch and Key will retain their positions with Atlanta Belting Co., but Mr. Stover will give his entire time to the new organization.

Standard - Coosa - Thatcher Co,. Chattanooga, Tenn., and Philadelphia, Pa., has appointed George K. Lewis as sales representative for S-C-T cotton threads for the cutting-up trade and industrial use in New York state beginning Jan. 1. Mr. Lewis, who will make his headquarters in Utica, will replace the Rowe-Gardiner Co., Amsterdam.

Blackman-Uhler Co., Spartanburg, S. C., has been incorporated to deal in textile chemicals with authorized capital of $25,000. William Uhler, is president; P. C. Blackman, treasurer; Paul C. Thomas, secretary.

ROBERT J. QUINN, of The Mathieson Alkali Works, who was elected president of the Compressed Gas Manufacturers, Association, Inc., on Jan. 22 on the occasion of the association's 32nd annual meeting.

C. H. A. SCHMITT who has been appointed by Sandoz Chemical Works, Inc., New York, to organize and direct a Research Department. He has been affiliated with Sandoz for 15 years; for the last several years as technical manager for the New England area.

S. M. Ferrer, Spearhead Service, has removed his offices to new location at 744 Broad St., Newark 2, N. J.

Textile Machine Works, Reading, Pa.—Although 3000 employees of this company have been manufacturing high-precision mechanisms for military use for several years, it was only on Jan. 4 that they were shown the complete unit in operation when they watched a demonstration of the remotely controlled gun turrets as used on the B-29 Superfortresses. General Electric Co., the prime contractor, staged the demonstration, aided by Lt. Haig Costikyan, of Philadelphia, who has flown 51 missions over Italy.

Pennsylvania Salt Mfg. Co., Philadelphia, Pa., has named Ethel Serfas Klingman as assistant manager of advertising.

Rohm & Haas, Philadelphia, has removed its New York city office to new and larger quarters at 11 West 42nd St. Sale of Plexiglas sheets and mold-

Smooth warps for easy weaving—

with *Laurel* RAYON SIZE*

Your rayon warps will be smoother, stronger, cleaner, more resilient and more resistant to atmospheric action if you use Laurel Rayon Size. Unlike ordinary sizes, Laurel Rayon Size penetrates and envelops the yarn—binds the filaments together. It reduces chafing and breakage, increases elasticity, equalizes variations in yarn tension. Does not shed. Removed quickly and easily in regular scour. Laurel Rayon Size gives high loom efficiency. Leaves cloth soft, smooth with good appearance and minimum defects.

Sizers and weavers throughout the industry tell us Laurel Rayon Size simplifies and speeds the weaving process. If you are not now using Laurel Rayon Size, save time and costs by sending for a trial order today. Available for immediate delivery. Our Laboratory Technicians will gladly recommend a formula to meet your exact requirements.

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Wm. H. Bertolet's Sons • *Established 1909*

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for Every Purpose!

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PROCESSING COMPANY, INC.

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the start of finer fabrics

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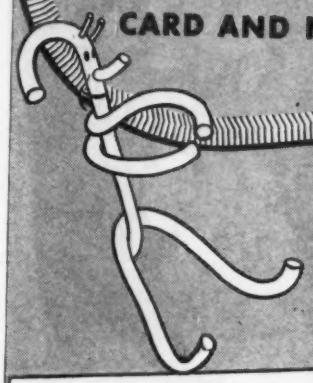

● The final quality of fabrics depends to a great extent upon good carding. You can be certain of good results when you use Wissco Card and Napper Clothing. Made of special steel, its clean-cut staples are precision set and ground for keen penetration. Glass-hardened points eliminate loss of time to regrinding. Available in all standard foundations.

For literature write Card Clothing Gen'l Sales Office, Wickwire Spencer Steel Co., Sterling St., Clinton, Mass. or 500 Fifth Avenue, New York City. Sales Offices in Buffalo, Chicago, San Francisco, Worcester.

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CARD AND NAPPER CLOTHING

for wool, worsted, cotton, asbestos and specialties

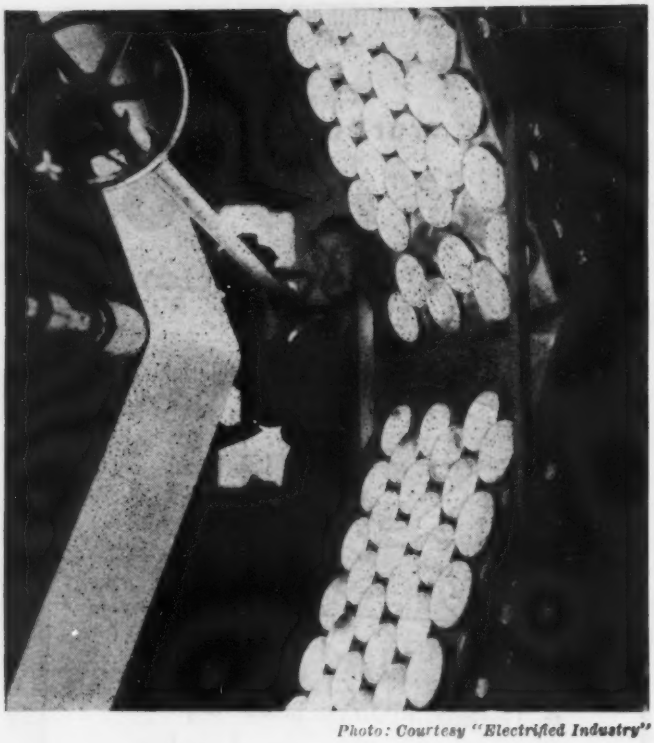

Photo: Courtesy "Electrified Industry"

HOW TO DRY OUT A *wet blanket* IN 3 MINUTES with INFRA-RED

Here's how to dry out a wet blanket (of felt, used in the White Bros. plant to "blot" fabric in the Sanforizing process). These INFRA-RED Heat Lamps, reflector type, dry it 100% faster than former methods—because INFRA-RED heat penetrates deep into the substance and works rapidly to the surface. Think of drying anything from the inside out! Scientific INFRA-RED Heating — efficient, rapid, inexpensive — may well find an application in your plant.

BIRDSEYE INFRA-RED HEAT LAMPS are standard for most infra-red tunnels, ovens, and other production line installations. There is no mystery or hocus-pocus about the really dramatic results possible with Infra-Red. However, Infra-Red Heating is a science, and, for maximum efficiency, *Birdseye Lamps should be used with scientifically engineered equipment.* We will gladly furnish names of manufacturers of such equipment.

WABASH APPLIANCE CORPORATION
345 Carroll Street, Brooklyn 31, N. Y.

ing powders will be handled by D. S. Plume and H. L. Stauffer, from that office. William Torres, of Woodbury, will handle Plexiglas sheets and molding powders in the New England territory, with Harry E. Holmes.

Trust Co. of Georgia, Atlanta, Ga., has appointed Earle F. Wilson, former business analyst and assistant secretary of the New Orleans Bank for Cooperatives, to be director of its new Industrial Development Department.

Philadelphia Quartz Co., Philadelphia, Pa., has initiated a new employees' service-emblem plan. All employees with the company for 10 years or over will receive silver or gold pins or buttons designating specific periods of service. Top honors were bestowed on John A. Wilson, construction superintendent, for his record of 42 years. Fifty-five employees have been with the company for over 25 years.

Cox Foundry & Machine Co., Atlanta, Ga., has named Roy S. Smith to head its power transmission department. Mr. Smith, for last few years with Southern Belting Co., previously served many years as engineer for the Power Transmission Council. The power transmission department was recently organized by Cox Foundry & Machine Co. W. P. Durst is president and J. W. Simmons is vice-president, since their acquisition of the interest of W. G. Nichols in a recent transaction.

Textile Service & Chemical Corp., North Quincy, Mass., has added Charles L. Parker to its technical staff. Mr. Parker was formerly associated with Aspinook Corp. and with Pacific Mills, Print Works Division. Textile Service & Chemical Corp.'s technical staff now includes Ewald Trost, chief chemist; John G. Parker, Jr., chemist in charge of plant production; Charles L. Parker, chemist in charge of product application.

W. D. Dodenhoff Co., Greenville, S. C., has added Barney R. Cole to its staff and assigned him to Alabama territory to work under direction of John C. Turner, in charge of Atlanta office. In addition to practical experience in the mill, Mr. Cole was for a period of years with Steel Heddle Mfg. Co., and at one time with N. Y. & N. J. Lubricant Co.

HENRY W. FOULDS, previously executive vice-president, who has been elected president of the Permutit Co., New York, succeeding W. Spencer Robertson, president for the last 15 years, who has been elected chairman of the board.

Walker Mfg. Co., Philadelphia, Pa., has added A. A. "Red" Brame, of Greensboro, N. C., to its sales force. He was formerly with the Greensboro Reed Loom Co. He will handle the complete line of Walker flat heddles, frames, and reeds and will cover North Carolina, Virginia, and part of South Carolina. Mr. Brame's services will be in addition to the coverage of the Odell Mill Supply Co.

Columbia Chemical Division of Pittsburgh Plate Glass Co., Pittsburgh, Pa., has acquired

CLARENCE E. SEARLE, who has been elected president of Worthington Pump & Machinery Corp., Harrison, N. J., succeeding Harry O. Beaver, who was elected vice chairman of the board and chairman of management committee. Mr. Searle has been vice president in charge of sales since joining the Worthington organization in 1932, following a long period of service with Allis-Chalmers Mfg. Co.

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John: Let's order new Douglas Spunray Gum for warp sizing spun rayons, spun acetates and mixtures. Understand protects yarns like standard starches yet desizes completely in soap and water.
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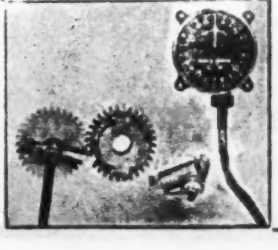
Jones Portable Hand Tachometers are continuous indicating, centrifugal movement, with guaranteed calibration. Lightweight, heavy-duty. Multi-range tachometer complete with 4" extension rod, convex and concave rubber tips, 12" circ. peripheral disc, centerpunch and carrying case . . . $60 FOB Stamford, Conn. Single range portables available in wide variety of ranges. Write for specifications.



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Jones Fixed Textile Tachometers for permanent installations are continuous indicating over full-scale uniform 360° dial. Heavy duty, wide variety of ranges, and special dial indications. Specifications and prices upon request.

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437 Fairfield Ave., Stamford, Conn.

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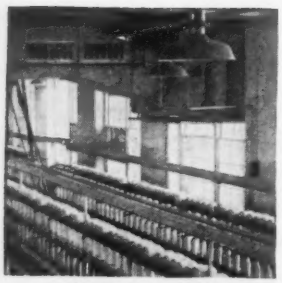
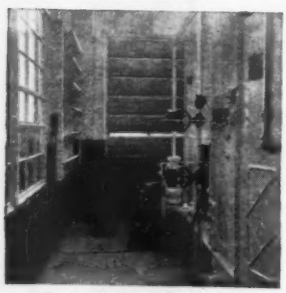
for old Spinning Rooms and Weave Rooms



Air enters through Airchanger unit

Regain higher and more dependable. Greater strength and more uniformity in numbers.



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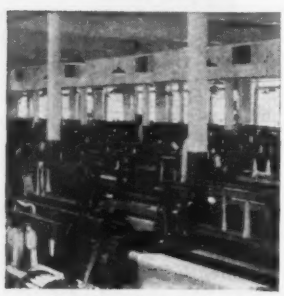

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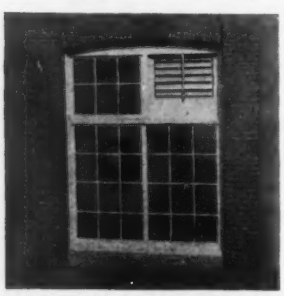

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Better Product. And very often as much as 2% more production.

Certified CLIMATE with its exclusive method of control has been known to PAY FOR ITSELF in a year, or less.

Parks-Cramer Company

Fitchburg, Mass. Charlotte, N. C.

the plant and sales organization of Pacific Alkali Co. The plant is at Bartlett, Calif. A district sales office will be opened in San Francisco after the first of the year, in addition to the alkali company's Los Angeles office.

American Cyanamid Co., New York, has adopted an employees' retirement plan for United States employees of American Cyanamid Co., American Cyanamid & Chemical Corp., Chemical Construction Corp., Davis & Geck, Inc., and Lederle Laboratories, Inc. These companies are contributing all of the funds for the cost of the plan.

Apex Chemical Co., Elizabeth, N. J., has formally opened its new research laboratory. The building, two stories high, of brick construction, consists of 17 rooms and is built on a plot 40 x 60 ft. The new structure is the eleventh on the factory grounds.

The Foxboro Co., Foxboro, Mass., has appointed Wendell A. Melton, as district manager, in charge of the Tulsa territory. He has already taken up his duties at the company's office in the McBirney Bldg., Tulsa 3, Okla.

Pittsburgh Plate Glass Co., Pittsburgh, Pa., has appointed Harry R. Kluth, of Philadelphia, as general manager of its 77 warehouses. He succeeds Frank Clarke, who moves to Brooklyn as warehouse manager and eastern manager.

E. I. du Pont de Nemours & Co., Wilmington, Del., Cellophane Division, has established a sales office at Atlanta, Ga., to provide packaging service to the industries of the South. R. E. Sidwell, southern district sales manager, is in charge. Office is located in the Trust Co. of Georgia Building.

Brown Instrument Co., Philadelphia, has added electronic strip chart and Moist-o-Graph instruments studies to the free courses being conducted by the Brown School of Instrumentation. The second of the 1944-45 courses of lectures, and practical laboratory instruction started Feb. 5 and will continue to May 4.

American Society of Lubrication Engineers, 135 South LaSalle St., Chicago, has been

JOHN S. COEY, who has been appointed by Hooker Electrochemical Co., as manager of its sales development department at Niagara Falls, N. Y. He joined Hooker in 1937, and was lately an assistant in this department.

organized as a non-profit body. Members include educators, machinery builders, lubricant suppliers, and consumers are represented by the various phases of industry. Officers are: C. E. Pritchard, Republic Steel Co., president; J. C. Peebles, Dean of Engineering, Illinois Institute of Technology, vice-president; B. H. Jennings, Professor of Mechanical Engineering, Northwestern University, secretary and treasurer.

Allis-Chalmers Mfg. Co., Milwaukee, Wis., has appointed Archibald J. Cooper as manager of its New York district office. Formerly assistant manager of the New York office, Mr. Cooper succeeds A. F. Rolf, who now will devote full time to his duties as assistant secretary of the company.

Monsanto Chemical Co., St. Louis, Mo., has appointed Robinson Ord as acting general manager of sales of the Organic Chemicals Division, pending the return to duty of Fred C. Renner, who is now convalescing. Dr. Franklin D. Smith has been appointed as assistant director of development for Monsanto's Organic Chemicals Division. David L. Eynon, Jr., plant manager of the Longhorn Ordnance Works, which Monsanto operates for the government at Karnack, Tex., has been promoted to the position of assistant to the general manager of the company's Organic Chemicals Division. Monsanto's Organic Chemicals Division has made the following promotions: I. J. Stanley, Jr., to manager, heavy chemicals sales;

THE OLDEST AND LARGEST

Manufacturers of

RING SPINNING AND TWISTER TRAVELERS

IN THE UNITED STATES

NATIONAL - ETARTNEP FINISH
A NEW CHEMICAL PROCESS

American • Hicks • Wilson

United States Standard
Wentworth Double Duty
and Gravity Travelers

MAKES STRONGER YARN

Double Duty and Gravity Travelers embody a new heat-treating principle, reduces to the irreducible minimum the frictional contact between the Traveler and the Ring. The life and endurance of the Traveler is not only multiplied by two, and oftentimes to a greater degree, but the life of the spinning Ring is increased in relative proportion to the lessened frictional load.

NATIONAL RING TRAVELER COMPANY

PHILIP C. WENTWORTH, Treas.

PAWTUCKET, R. I., 354 PINE STREET **CHARLOTTE, N. C.**

ACTUAL SIZE
EMPIRE
textile
mill crayons
THE PERFECT MARKER
FOR ALL TEXTILE MILLS
Especially made for marking the roving in wool, cotton, silk, rayon, and all textile mills.
Supplied in 18 clear, distinguishable colors.
Write to Dept. T-1 for a FREE chart showing these colors.
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THE AMERICAN CRAYON COMPANY
1706 HAYES AVENUE SANDUSKY, OHIO
SAN FRANCISCO DALLAS

ONE MINUTE TALKS ON

Removing Lacquer From Backing "Grays"

If you are looking for a more effective . . . more economical way to remove lacquer from backing "grays", investigate this performance-proved Oakite method.

In your washing tank use the recommended Oakite material that thoroughly and completely removes lacquer, dirt and other deposits. Method restores "grays" to normal pliability and softness . . . puts them in excellent condition for re-use.

The personal help of your Oakite Technical Service Representative is FREELY available. Why not write to have him call TODAY?

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Technical Service Representatives Located in All Principal Cities of the United States and Canada

OAKITE *Specialized* **CLEANING**
MATERIALS & METHODS FOR EVERY CLEANING REQUIREMENT

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DYESTUFFS • DYEWOODS
CHEMICAL SPECIALTIES
for Textiles and Allied Trades

PROGRESSIVE RESEARCH

in War as in Peace

Our many years of experience in the manufacture of Quality Products enable us not only to meet the pressing problems of Today . . . but also to help you prepare for the requirements of tomorrow. We are pleased to place this experience and our research facilities at your disposal. Tell us how we may serve you.

A FULL LINE OF Dyestuffs, Converted Starches, Waterproofing Agents, Sulphonated Oils, Finishing Compounds, Penetrators, Detergents and other Chemical Specialties.

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Main Office and Works:

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Philadelphia · Chicago · Charlotte
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NEWS ABOUT SUPPLIERS

G. W. Burhman, to assistant manager, heavy chemicals sales; A. P. Kroeger, to manager, intermediates chemicals sales; C. H. Sommer, Jr., to manager, plasticizers and resins sales.

Sylvania Industrial Corp., New York, reports that John Adrian, who has been with WPB's Chemicals Bureau for the last 18 months, has returned to the company and will make his headquarters at the New York office as special representative.

General Electric Co., Schenectady, N. Y., has added to the responsibilities of C. H. Lang, vice president and manager of apparatus sales, the direction of Application & Service Engineering in the firm's apparatus department. Dr. C. G. Suits, assistant to the director of the research laboratory, has been elected vice president in charge of the company's research laboratory. David C. Prince, vice president of GE, will take charge of the company's General Engineering Laboratory, the activities of which will be broadened to include the requirements of the entire company. L. D. Fowler, Oakland, Calif., has been appointed assistant manager of sales of General Electric's integral-horsepower a.-c. motor section of the Motor Division. A new Department in the GE organization, to be known as the Chemical Department, has been created by the board of directors.

Kilcommons Chemical Corp., Providence, R. I., has changed its name to the Textile Chemical Corp. of R. I. The names of its products, some of which were referred to in the December TEXTILE WORLD, are now known as Texchem finishes instead of Kilcomines.

Stewart-Warner Corp., Chicago, has made the following promotions: Arden LeFevre to be vice-president and director of engineering of Division One (alemite, instruments and radio); Fred R. Cross, advertising manager; George W. Ochlsen, Jr., assistant director of engineering, Division One.

C. J. Tagliabue Mfg. Co., Brooklyn, N. Y., pioneer in control and laboratory instruments, has sold its assets, including goodwill, name and patents, to the **Portable Products Corp.**, Pittsburgh, Pa. The business will operate under the same local management and personnel, as the C. J. Tagliabue Division of Portable Products Corp.

DR. L. H. JAMES, who has opened a consulting office and laboratory in industrial microbiology at 189 West Madison St., Chicago. He has lately directed numerous researches at the University of Maryland on control of bacteria, disinfectants and antiseptics in textiles, control of mold and mildew, etc.

Wickwire Spencer Steel Co., New York, has appointed H. C. Allington as assistant general sales manager of the company and its subsidiary, the American Wire Fabrics Corp.

Hercules Powder Co., Naval Stores Department, Wilmington, Del., has set up a new sales district in Canada, and established a district office in the Statler Bldg., Boston. Harrisons & Crosfield (Canada) Ltd., Montreal, will continue to be the department's authorized dealer in the Canada District. A. H. Sanford, who has supervised Naval Stores sales in New England, will be the manager at Boston.

Air Reduction, New York, has appointed H. F. Henriques, formerly sales manager of the North Central Division, to be general sales manager.

Lewis-Shepard Products Inc., Watertown, Mass., has appointed E. S. Whitten as advertising manager, succeeding W. Clapp who is no longer with the company. The company name was formerly Lewis-Shepard Sales Corp.

The Lunkenheimer Co., Cincinnati, Ohio, has appointed Frank P. Rhame, a director and vice-president and assistant general manager, to be general manager, succeeding Charles A. Brown, retired.

Machine and Hand Knitting

Yarns

[French-Bradford]

for

BATHING SUITS
OUTERWEAR
HOSIERY
UNDERWEAR

★

Complete color assortments

American Woolen Company

225 Fourth Avenue **New York**

NEW MODEL • HIGHEST ACCURACY
CHRONOMETRIC
TACHOMETER

Readability to 1 RPM per division. Guaranteed accuracy well within ½ of 1%. Indicates RPM directly on the dial without any calculations over a fixed period of 6 seconds. Negligible torque. Two models with ranges 0-1000 RPM or 0-10,000 RPM, each suitable for double rated range.

Write for Bulletin No. 715

HERMAN H. STICHT CO. INC.
27 PARK PLACE NEW YORK, N. Y.

MURDOCK Bobbin Holders

Two exclusive Features Affording Long Life:

1. Automatic - bobbin holders equipped with holding wings electrically hardened all the way through.
2. Holding wings held positively in position by skeleton washer — no sliding around.

We make holders for ¾" to 2½" bobbin heads, including large-package wood and paper bobbins, also special bobbins. Duplex holders take both automatic and non-automatic bobbins.

Holders for all types of mules, frames, twisters, and winders.

MURDOCK & GEB CO., Franklin, Mass.

Manufacturers of Bobbin Holders for Over Fifty Years

Select THIS WINNING TRAVELER TEAM!

Superior ring travelers, manufactured for over 45 years under a process famous for its rigid uniformity. Technically-trained ring traveler specialists always willing and able to make constructive suggestions or help you find the answer to a spinning or twisting problem.

This is the Dary Ring Traveler Team—the team that belongs in your mill.

Here are eight practical reasons for the superiority enjoyed by Dary Ring Travelers.

1. Every Dary Traveler is of guaranteed weight, temper and stock.
2. Specially drawn stock is used exclusively in their manufacture.
3. Only the latest approved methods plus especially designed tools are used in making superior Dary Travelers.
4. For over 4 decades, skilled workmen have been responsible for turning out "better" Dary Travelers.
5. Dary Travelers are always accurately finished.
6. Special methods assure proper and uniform hardening.
7. Detailed inspection and rigid tests are "musts" in the Dary process.
8. Dary Travelers are unequalled for resistance to wear.

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DARY RING TRAVELER CO.
TAUNTON, MASS.

Ask the Dary representative in your area to call soon.

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1852-1944

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ARLINGTON MILLS
LAWRENCE, MASS.

Bradford Spun Worsted Yarns, Natural and Slub-dyed Colors and Mixes.

MONOMAC SPINNING CO.
LAWRENCE, MASS.

French-spun Worsted and Merino Yarns. Specialty Yarns—Rabbits Hair, Rayon, Acetate and Other Blend Yarns.

NONQUITT MILLS
NEW BEDFORD, MASS.

Cotton and Spun Rayon Yarns, Merino Blends, Specialty Rayon and Wool Mixtures.

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PHILADELPHIA, 1600 Arch St. CHARLOTTE, Commercial Bank Bldg.

NEWS ABOUT Mills

Cotton Mill News

Borden Mills, Inc., Kingsport, Tenn., recently suffered fire damage to 240 bales of cotton when a light bulb exploded in the warehouse.

Canadian Mill of Canadian Cottons, Ltd., Cornwall, Ont., has completed a 4-story 54 x 60 ft. addition.

Fitzgerald Mills Corp., Fitzgerald, Ga., has been chartered with capital of $300,000 by Courtland Palmer and associates, New York, N. Y., to take over and operate Fitzgerald Cotton Mills, recently purchased.

General Webbing Corp., Springfield, Mass., will defer erection of proposed one-story addition (previously reported) until a later date, and it is understood that bids will be asked in spring.

Graniteville Co., Graniteville, S. C., has awarded contract to Daniel Construction Co., Greenville, S. C., for a one-story addition, reported to cost over $35,000.

Hoosac Mills Corp., North Adams, Mass., with Morgan Butler, receiver, has been authorized by Federal Court to sell its No. 1 mill. At last report the high bid was $20,000 from Jacob Ziskind.

Jackson Mills, Unit No. 3, High Shoals, N. C., has been purchased by Carolinian Mills, Inc., newly-formed Gastonia, N. C., corporation. The purchase price was not announced. Officers of the new corporation are E. O. Reading, president and treasurer; J. O. Corn, vice president and general manager; W. M. Gillespie, secretary.

Merrimack Mfg. Co., Huntsville, Ala., will make renovations at an estimated cost of $90,000, including office remodeling and improvements to unit No. 2. The latter operation will consist of building 31 reinforced concrete buttresses and stiffening wooden floor beams with approximately 160 tons of structural steel.

Pacific Mills, Lyman, S. C., plan construction of a one-story addition.

Peoria Fabrics, Inc., South Bend, Ind., has been incorporated to manufacture cloth and cloth products, with 1,000 shares of capital stock. Incorporators are Carleton K. Turk, Leonard O. Zick, and J. Clifford Potts.

Pepperell Mfg. Co., Opelika, Ala., plans for an addition to cost about $325,000, including equipment. Priority rating has been secured, and work will begin soon. Robert & Co., Atlanta, Ga., are architects and engineers.

Utica & Mohawk Cotton Mills, Utica, N. Y., recently purchased Seneca Mill and mill village at Seneca, S. C. Seneca will continue with government contracts until after the war, when it will begin manufacture of sheets and pillow cases. Utica & Mohawk have also purchased a tract of land at Gainesville, Ga., to be used for postwar mill expansion.

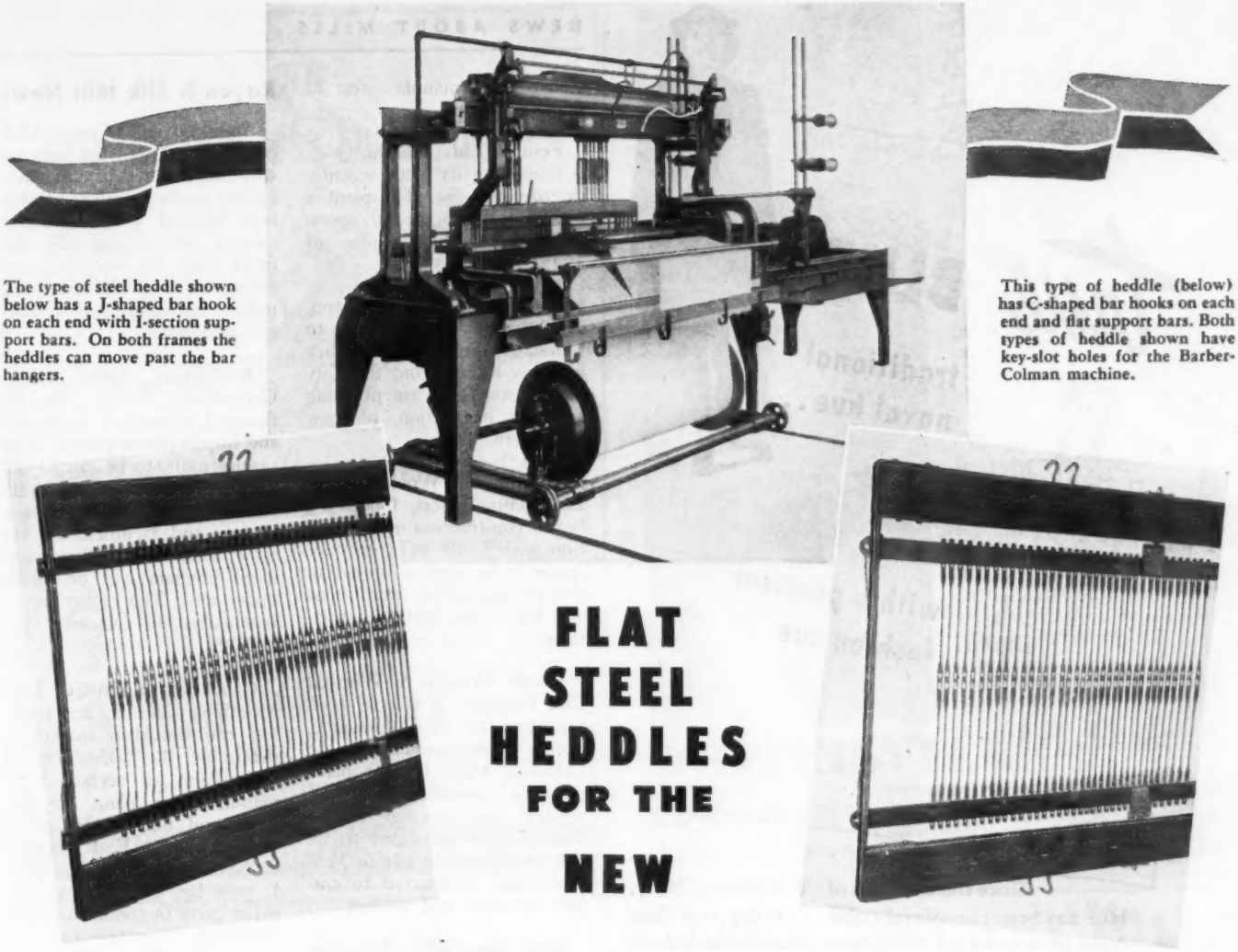
Winnsboro Mills, division of U. S. Rubber Co., Winnsboro, S. C., plans additions and alterations to its office building. Contract for the improvements has been awarded to Lafaye, Lafaye & Fair, Columbia, S. C., architects.

Wool Mill News

Atlanta Woolen Mills, Atlanta, Ga., have changed ownership but will continue operations as heretofore, giving employment to more than 600 persons. D. P. Manget, of Newnan, Ga., is reported to be the purchaser.

Berkshire Woolen Co., Pittsfield, Mass., has voted increase in capitalization from 18,000 to 108,000 shares of stock, no par value.

Cedar Falls Woolen Mills, Cedar Falls, Iowa, recently sold a three-story mill, 60x150 ft., to the Bolser Corp., of



The type of steel heddle shown below has a J-shaped bar hook on each end with I-section support bars. On both frames the heddles can move past the bar hangers.

This type of heddle (below) has C-shaped bar hooks on each end and flat support bars. Both types of heddle shown have key-slot holes for the Barber-Colman machine.

FLAT STEEL HEDDLES FOR THE NEW

BARBER-COLMAN DRAWING-IN MACHINE

Steel heddle manufacturers are now ready to furnish flat steel heddles of the special key-hole type needed for the new Barber-Colman Drawing-In Machine. On these frames the heddles can slide the full length of the support bars. This machine offers so many advantages that we urge the purchase of these new-type harnesses whenever replacements are being made. This machine will draw up to 24 harnesses and 8 banks of drop wires and reed, which makes it suitable for plain or dobby weaves. It is adaptable to rayon, cotton, or wool, thus making it applicable in all types of weaving mills. The advantage of an accurate automatic drawing-in machine over hand work on the same operation is well known to every experienced mill man. This new machine has the capacity not attainable on older types of similar machines and will be found practically universal in its usefulness. Many engineering and design improvements have been introduced which make it noticeably superior in every respect to its well-known predecessors. Complete descriptive data is available in a circular which will be forwarded on request. For details regarding use in your own mill, consult your Barber-Colman representative.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

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Since the first days of the American Navy, blue has been the official color . . . today, *true blue* Navy Blue is the color fashion of the day for Sailors, Waves, and Spars . . . tomorrow, the perennial smartness of *true blue* Navy Blue will be distinguished by improved color fastness and uniformity.

SOLVAY SODIUM NITRITE is an important chemical in the preparation of *true blue* Azo dyes for Navy Blue. Its pure, free-flowing crystals of U.S.P. quality are especially suited for the manufacturing of dyes and for textile dyeing.

For *true blue* Navy Blue dyes and dyeing specify —SOLVAY SODIUM NITRITE and get better results!

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Alkalies and Chemical Products Manufactured by The Solvay Process Company

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SOLVAY
TRADE MARK REG. U. S. PAT. OFF.
SODIUM
NITRITE

Cedar Falls, manufacturers of safety apparatus.

Fernhill Ltd., Joliette, Que., is rebuilding its plant recently destroyed by fire. The plant is expected to be in full operation about the middle of 1945.

Hield Bros., Ltd., Kingston, Ont., Canada are arranging to purchase the buildings they formerly rented from the City of Kingston, and are planning for the installation of new machinery.

Huntingdon Woolen Mills, Ltd., Huntingdon, Que., has begun construction of an addition with 5,000 sq.ft. of floor space, to be used as an extension to the picking department and for a new burling department.

Kimlin Woolen & Worsted Co., Walhalla, S. C., has been organized by Fred J. Came, former superintendent of the LaFrance Mill. Present plans call for installation of 24 woolen and worsted looms. The plant is scheduled to be put into operation late in February, and is expected to employ 40 men and women.

Kraft Rug Mills, Nazareth, Pa., are planning postwar mill expansion with installation of new equipment for woolen rug production. The company has previously concentrated on production of cotton rugs.

Moose Jaw, Saskatchewan, Canada—The government of Saskatchewan, Can., recently purchased a warehouse in Moose Jaw to be converted into a woolen mill. Production of blankets, mackinaw cloth, quilts, comforters and other woolen articles from local wool is expected to start this spring.

Newton Woolen Mills, Ltd., Mornington, Perth, Ont., Canada, was recently chartered by the Ontario Government to manufacture and sell wool, woolen goods and by-products.

Paragon Worsted Co., Providence, R. I., is completing erection of one-story addition.

Sangerville Woolen Co., Sangerville, Me., which lately suffered fire loss when the two upper stories of the 4-story mill were burned out, has built a new roof over the mill and plans to go ahead with the interior construction in the spring.

Rayon & Silk Mill News

American Silk Corp., Mineral Wells, Texas, has been incorporated. Assets listed include 12,500 mulberry trees, planted near Mineral Wells, and machinery for reeling silk filament from silk cocoons, consisting of two Universal silk reeling machines, five spindles and five basins.

Burlington Mills Corp., Greensboro, N. C., has authorized a postwar expansion and improvement project at its various mills, to be carried out over a four-year period, with installation of additional machinery and facilities. At the same time, a fabric development program will be placed under way. The entire project is reported to cost over $3,000,000.

Canadian Industries Ltd., Montreal, Canada, are studying the Canadian market to determine the advisability of establishing an acetate rayon manufacturing plant for filament and fiber under an arrangement with E. I. du Pont de Nemours & Co. The C. I. L. now has a plant producing nylon yarns in conneciton with Du Pont.

Celanese Corp. of America, New York, N. Y., has purchased over 20 acres of land at Yonkers, N. Y., for postwar use as site for a new laboratory and research station to cost about $1,000,000.

J. D. Huizeng Ribbon Co., Paterson, N. J., care of Frank J. Davies, 152 Market St., Paterson, attorney and representative, has been incorporated with capital of 500 shares of stock to operate a local rayon mill.

John Martin Silk Co., Easton, Pa., will be known hereafter as John Martin Textiles. Ernest W. Martin is proprietor.

Naumkeag Steam Cotton Co., Salem, Mass., is planning to convert facilities to the weaving of rayons after the close of war.

Peerless Weaving Co., Inc., Pawtucket, R. I., recently changed its name to Peerless Mills Co., Inc.

Panzy Fabrics Corp., Central Falls, R. I., recently organized with capital of 680

Keep Oil Off Yarn
Use the Drip-less Lubricant

Most leading mills . . . have standardized on NON-FLUID OIL for the lubrication of SPINNING FRAMES—because it stays in bearings and off yarn.

Saves money on lubricant and application cost also and avoids oil saturated roll covers. Remaining in bearings NON-FLUID OIL outlasts oil 3 to 5 times.

Write for instructive bulletin

New York & New Jersey Lubricant Co.

***Main Office:* 292 Madison Ave., New York, 17, N. Y.**

Southern Agent, Falls L. Thomason, Charlotte, N. C.

WAREHOUSES

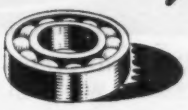
Chicago, Ill. — Atlanta, Ga.
Providence, R. I. — Detroit, Mich. — Charlotte, N. C.
St. Louis, Mo. — Greenville, S. C.

TRADE MARK REGISTERED
NON-FLUID OIL
IN U.S. PAT OFFICE & FOREIGN COUNTRIES

MODERN TEXTILE LUBRICANT

Better Lubrication at Less Cost per Month

Rings are Bearings



As the fastest-moving part in the mill, the traveler merits the most effective bearing surface available. The famous "DIAMOND" FINISH affords a superb anti-friction bearing surface in more than 1,000 styles and sizes of rings. These comprise designs for every textile need, including exclusive auto-lubricated types. DIAMOND FINISH rings enable you to get that combination of "just right" design and durable smoothness which promote maximum speeds and maximum life.

WHITINSVILLE (MASS.)
SPINNING RING CO.
DIAMOND FINISH
Makers of Spinning and Twister Rings since 1873

DANA WARP MILLS
Westbrook, Maine

Cotton yarns, single and ply
Cotton warps, single and ply
Colored yarns and warps
Spun rayon—yarns and warps
Seamless grain bags.

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ALFRED W. CAVEDON

Spinners of Fine Woolen
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Yarns for All Purposes

French and English Spun Worsted
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Mr. Arthur Bone, 4436 Worth St., Los Angeles 33, California

COMMISSION
WINDING WARPING
YARN DYEING
PIECE GOODS DYEING

BLACKSTONE PLUSH MILLS, INC.
CLINTON, MASS.

SOLUBLE PINE OILS

CUT TIME AND COST—IMPROVE RESULTS IN ALL WET PROCESSING WITH BURK-SCHIER SOLUBLE PINE OIL

Burk-Schier Soluble Pine Oil Reduces Surface and Interfacial Tensions . . . Wets, Penetrates, Suspends, Disperses . . . Aids Detergents and Dyes . . . A Little Does a Lot and Does It Well

COTTON: In the kier, Burk-Schier Soluble Pine Oil brings the liquor in contact with every fiber, leaves uniform bottoms that dye and finish more evenly. Boiling time is cut. Fibers are softer, fuller, more resistant to age-discoloration.

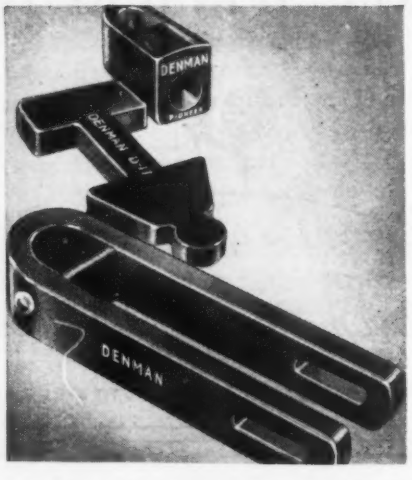
WOOL: Burk-Schier Soluble Pine Oil is valuable in raw-wool scouring . . . irreplaceable in fulling. From the raw stock it produces clean, soft, really white wool in prime condition for storage or further processing. In the fulling mill, it cuts fulling time as much as 30% . . . costs no more . . . helps you meet contract delivery dates on time.

RAYON: In boiling off, Burk-Schier Soluble Pine Oil rapidly emulsifies gelatinous materials . . . is safe for the most delicate fabrics. Used in dyeing, it makes the fabrics wet out and sink quickly.

DYEING: Burk-Schier Soluble Pine Oil makes dye liquor penetrate the hardest fibers and heaviest seams. It gives an even, level deposit of dyestuff of uniform depth throughout every fiber. Loose dyestuff and impurities are suspended for washing out completely.

PRINTING: In printing paste, Burk-Schier Soluble Pine Oil wets pigments thoroughly, disperses them evenly, and holds them in suspension without agglomeration until the design is on the fabric. Designs are sharp, colors bright and clear, no specks are formed.

BURKART-SCHIER CHEMICAL CO.
CHATTANOOGA, TENNESSEE
MANUFACTURING CHEMISTS FOR THE TEXTILE INDUSTRY



DENMAN

PICKERS LUG STRAPS
HOLD-UPS

Lowest Cost Per Loom Per Year

The Terrell Machine Co., *Inc.*

CHARLOTTE, N. C.

James F. Notman, Needham, Mass. . . . N. E. States
E. W. S. Jasper, Inc., Elizabeth, N. J., Penn., N. Y. and N. J.
W. J. Westaway Co., Ltd., Hamilton & Montreal . . Canada
Geo. Thomas & Co., Manchester, Eng. . . European Agent

shares of stock, no par value, plans operation of a local mill for manufacture of rayon fabrics. Edwin O. Halpert, Providence, R. I., is attorney and representative.

Raycrest Mills, Pawtucket, R. I.—Controlling interest in this plant (formerly a division of Lorraine Mfg. Co.) has been sold by Jacob Ziskind. Nathan Sheinman, New York converter, has been elected president.

Sunspun Mfg. Co., Asheboro, N. C.—WPB has approved plans for construction of an addition.

Verney Mills of Canada, Ltd., Granby, Que., have work under way on two new mill additions, to provide for increased output. Over 150 new looms and auxiliary equipment will be installed, including dyeing and finishing machinery. Work is scheduled for completion late in spring at a cost of over $500,000. The yarn equipment includes 5000 spindles for rayon staple on the cotton system.

Zephyr Looms & Textiles, Ltd., Guelph, Ont., plan a one-story branch mill in vicinity of Quebec, Que., reported to cost approximately to $100,000, with equipment. H. Ross Wiggs, Montreal, Que., is architect. Whitin machinery for rayon-staple spinning will be installed.

Knitting Mill News

Batesville Co., Batesville, Miss., recently organized hosiery manufacturing concern, will occupy a one-story building, 112x127 ft., to be erected by Currie & Corley, Raleigh, Miss. The structure will be air-conditioned and will cost $60,000. E. L. Malvaney, Jackson, Miss., is architect.

Chalker Sales Co., Rome, Ga., has begun installation of machinery for manufacturing men's underwear. About 20 persons will be employed.

Dexdale North Carolina Co., Willard, N. C., has been incorporated to engage in hosiery manufacturing, with an authorized capital of 1,000 shares. Three shares were subscribed by L. Schierenbeck, R. G. Myers of Pennsylvania; and Willis Smith of Raleigh, N. C.

Hillcrest Knitting Co., Gastonia, N. C., has been incorporated to engage in a general manufacturing business with authorized capital stock of $200,000, of which $300 has been subscribed by Ethel G. Ross, Dorothy S. Girard and Herbert Girard, all of Gastonia.

Anna Lee Hosiery Co., Inc., Passaic, N. J., has been incorporated with capital of 100 shares of stock, to operate a local mill. Sol Eigen, 80 Lexington Ave., Passaic, is attorney and representative.

National Hosiery Mills Ltd., Hamilton, Ont., are planning a post-war addition to the Hamilton plant and installation of up-to-date machinery and equipment.

Nordic Hosiery Ltd., Granby, Que. is completing an addition to its mill, to be two-stories in height with nearly 10,000 sq.ft. of floor space.

Old Dominion Knitting Co., Galax, Va., is having machinery installed under supervision of Ross P. Penry, formerly superintendent of Pannill-Walker Knitting Co., Martinsville, Va., for manufacture of men's and boys' shirts.

Regent Knitting Mills, Ltd., St. Jerome, Que., is planning extensive plant modernization and expansion. Hyman Grover, who recently acquired financial control of the company, has been appointed vice president and managing director.

Sidney Knitting Mills, Inc., has just been formed for the purpose of purchasing the stock of the Scott Hosiery Mills at Graham, N. C., which for years has been owned and operated by Brig. Gen. Don E. Scott, of Graham, who now is in military service at Richmond, Va. The mill, comprising 29 full-fashioned machines, will become a wholly owned subsidiary of May McEwen Kaiser Co., of Burlington, N. C., under the transfer of assets.

Vesta Underwear Co., Pawtucket, R. I., manufacturer of knit underwear, recently bought the interest of G. G. Hartman in the United Underwear Mill at Boyerton, Pa.

Vogue Knitting Co., Womelsdorf, Pa., has filed notice of change of company name to Vogue Wear, Inc.

Well-Knit Mills, Inc., Chicago, Ill., recently organized with capital of $30,000, by Morton Jacobson and associ-

She still chooses hosiery for its Exquisite Dullness and Delicacy; its Softness, and of course, Eye-appeal, . . . but beyond that, she insists upon spot and water repellency,— plus miles more wear. *Dura Beau* supplies all of these attributes to milady's hose, . . . and in addition, it imparts the "film of protection."

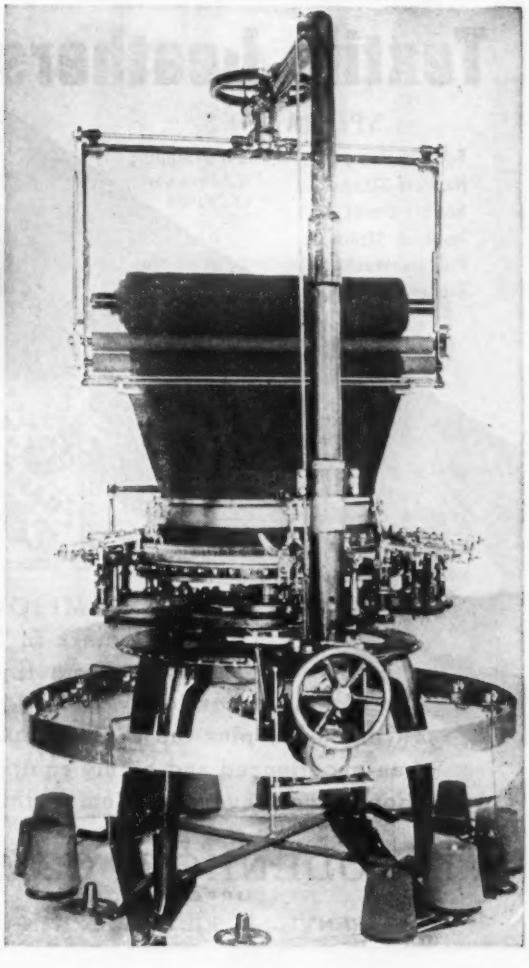
Dura Beau

Reg. U. S. A. & Canada

SCHOLLER BROS., INC.

Mfrs. of Textile Soaps, Softeners, Oils, Finishes
Collins & Westmoreland Streets, Phila., Pa.
St. Catharines, Ont. Can.

Single Head Spring NEEDLE Knitting Machine



PRODUCES 100 YARDS PER 8 Hr. DAY

The New S-1 Single Head Spring Needle Machine is especially designed for overcoating materials. At the same time, *any* fabric can be knit on it that is knit on the older type spring needle table!

Production is approximately 100 yards per 8 hour day, using 6 feeds.

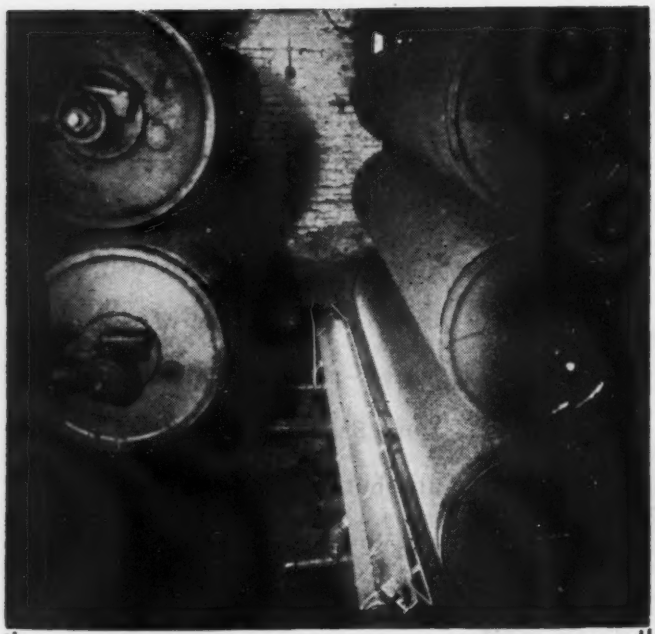
Features: Electrical driven by V belt simplified motor drive . . . electrical yarn stop motion . . . and needle stop motion.

Install one of these machines today, and in a few hours after reaching the mill it will be ready for operation!

For details write us direct.

TOMPKINS BROS. CO., INC.

ONEIDA ST. SYRACUSE, N. Y.



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A single 119 inch Red-Ray Burner applied to cans for drying inch thick felted material. Drying speed increased 60 per cent.

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Binder Leather

Loom Strapping
Both Leather and Fabric

"CHAMPION" is a *quality* mark in Textile Leather Products that also stands for low cost production efficiency plus the skilled application of an experienced and highly equipped organization, to your every problem in this field.

W. D. DODENHOFF COMPANY
INCORPORATED
GREENVILLE, SOUTH CAROLINA

ates, plan operation of a local mill for manufacture of outerwear and novelties. Henry Perlman, 100 North LaSalle St., Chicago, is attorney and representative.

Wells-Lamont Co., Chicago, Ill., will operate a glove factory at Philadelphia, Miss. Contract has been awarded to Perry Construction Co., Philadelphia, for the building, to cost $59,396.

Processing Plant News

Agawam Dye Works, Inc., Lowell, Mass., which recently purchased the Kunhardt Mills property in Lawrence, was granted a permit to rehabilitate two of the buildings for manufacturing purposes, at cost of about $50,000 for repairs.

Hyman Brodsky & Sons Wool Scouring Plant, North Philadelphia, Pa., was damaged recently by fire. Over 3,000,000 lb. of raw and processed wool destined for war production were destroyed, with loss estimated over $1,000,000.

Clearwater Mfg. Co., subsidiary of United Merchants & Manufacturers, Inc., has purchased 96 acres at Old Fort, N. C., for construction of a rayon dyeing and finishing plant pending approval of WPB.

Glendale Corp., Paterson, N. J., has bought the former plant of Trio Dye Works on East Fifth St.

Neversink Dye Works, Inc., Reading, Pa. have been granted a building permit for erection of a boiler house to cost $10,000. L. H. Focht & Son, Reading, Pa., are the contractors. Work will be started at once.

Newport Dyeing Assn., Providence, R. I., has been chartered with capital of 100 shares of stock, to operate a dyeing and finishing mill. The new company is represented by Milton E. Rosen, Turks Head Bldg., Providence, R. I., attorney.

Pilgrim Mills, Fall River, Mass., building has been purchased by Louis Hand, Philadelphia, Pa., manufacturer of sash curtains, etc., and will be occupied as a converting plant employing about 600 persons. The mill, totaling about 205,000 sq.ft. of space, will begin operations in six months.

Plasticote Co., Paterson, N. J., has moved its factory and offices to 9 Erie Street, Paterson, N. J. New premises consist of a one story brick building with railroad siding. Fabric coating machinery was moved to the new location from the company's former plant in Paterson, and also from its plant in Casining, N. Y., which has now been closed. Additional machinery will also be installed.

A. M. Townson & Co., Inc., dyers and finishers; and **Vigilant Mills Corp.,** weavers of tapestry, Philadelphia, Pa., recently sustained heavy losses when the building housing both companies were destroyed by fire. Combined losses were estimated at over $600,000. Plans for rebuilding are underway.

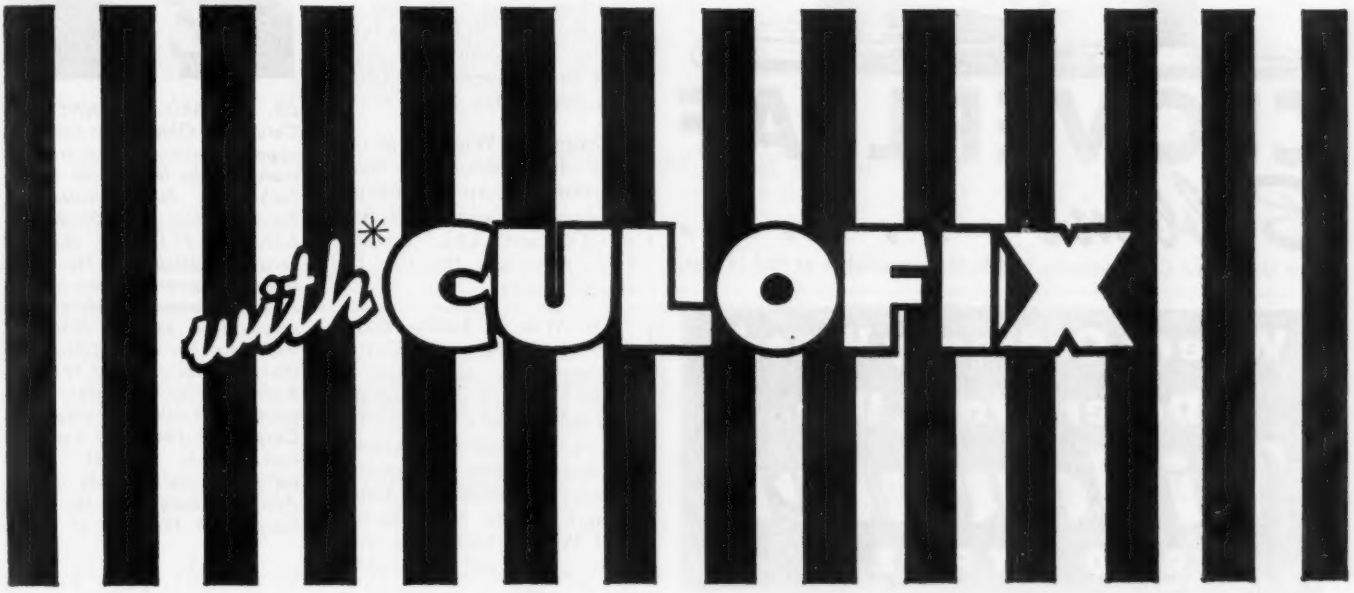
U. S. Finishing Co., Norwich, Conn., is planning a one-story addition to its mill in Greenville, district, including alterations and improvements in present buildings. Lockwood Greene Engineers, Inc., New York, N. Y., are engineers.

Miscellaneous Mill News

Florida Rubber Products Corp., Miami, Fla., has awarded contract to the Acme Constructors, for construction of the initial unit of the proposed rubber plant, which will measure 50x150 ft.

Rheestone Thread Corp., Warren, R. I., recently organized with capital of 3,600 shares, plans operation of a local mill for manufacture of rubber thread for special service. Charles R. Haslam, Turks Head Bldg., Providence, R. I., is attorney and representative.

United States Rubber Co. will start manufacturing operations in Burlington, N. C., about March 1, according to E. G. Brown, general manager of the company's Lastex yarn and rubber thread division. Plant was formerly used by Daisy Hosiery Mills, as previously reported. Yarns for surgical stockings for the armed forces will be scheduled for first production. On completion of all necessary war work, a long-range program will be inaugurated to supply Lastex for the hosiery trade. W. H. Barnhardt of Charlotte, N. C., has been named sales agent for the southern territory.



No matter where the trouble occurs — whether while the fabric is batched up after dyeing, or in the finishing bath—Culofix will improve water fastness.

Culofix used as an after treatment following the dyeing operation is especially valuable for preserving crisp detail and contrast in prints of rayons, cottons and mixtures.

It has been used with complete success for hosiery where mixed fibres are present.

Culofix not only improves water fastness of direct colors but also imparts a very desirable soft, full finish thus eliminating an extra finishing operation.

If fastness to water is essential to your direct color dyeings, write for complete data. Our technical staff is at your service without obligation.

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Manufacturers of Industrial Chemicals For Over 40 Years.

NEWARK **NEW JERSEY**

Headquarters for every type Bobbin

For over 45 years, Cloverleaf Bobbins have been built to meet, with scientific exactness, the varying conditions and processes of individual manufacturers.

No matter what type bobbin you need, come to Cloverleaf. Our Organization is constantly engaged in developing new types of bobbins, keeping ahead of every need of the Textile Industry.

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New type cone drive spindle and bobbin available at end of war.

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RED CYPRESS

THE high humidity constantly present in your production operations is fatal to ordinary woods, which quickly deteriorate under such extreme conditions. The use of the Heartwood of Tidewater Red Cypress, however, has proved itself practical and desirable. This Tidewater Red Cypress Heartwood withstands abuses to a remarkable extent and is, in fact, classified in the "Wood Handbook" of the U. S. Department of Agriculture as a species "durable even when used under conditions that favor decay."

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RED CYPRESS
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NEWS ABOUT *Men*

Thurmond Chatham, commander in the Navy and president of Chatham Mfg. Co., Elkin, N. C., was elected to the newly created post of chairman of the board, and **A. L. Butler,** of Winston-Salem, N. C., was advanced from executive vice president to president at a recent meeting of the board of directors. **W. R. Hartness, Jr.,** of Elkin, was elected treasurer, a post formerly held by Commander Chatham along with that of president. Mr. Butler has been serving as executive vice president since Commander Chatham entered the Navy.

George H. Wigham, at one time chairman of the board of Celanese Corp. of America, has become chairman of British Celanese, Ltd., London, Eng., succeeding the late Dr. Henry Dreyfus.

Dr. Wm. P. Jacobs, executive vice-president of Cotton Manufacturers Association of South Carolina and president of Presbyterian College, Clinton, S. C., has been elected executive director of American Cotton Manufacturers Association, Charlotte, N. C., to succeed W. M. McLaurine, who was secretary and treasurer for last 18 years.

F. G. Kingsley has been elected president of the Excelsior Mills, Union, S. C.; **Roger Milliken,** vice president and treasurer; **Peter P. Haynes,** vice president and general manager; and **H. E. Williams,** secretary.

R. T. LeGrand has been elected president and general manager of Shelby Cotton Mills, Shelby, N. C., succeeding the late C. C. Blanton.

J. Edward Kale of Lincolnton, N. C., has been elected chairman of the board of directors of the Hampton Co., Easthampton, Mass. He has been a director for some years and is president of Hampton Spinning Co., Clover, S. C. He is also president and treasurer of the Hall-Kale Mfg. Co., Troutman, N. C., which he founded in 1922. His son,

DR. WILLARD H. BENNETT, of Columbus, Ohio, who has been appointed director of applied research at the Institute of Textile Technology in Charlottesville, Va., effective Jan. 20. He received his Ph.D. from the University of Michigan. He was a National Research Fellow in physics at California Institute of Technology from 1928 to 1930, and was a member of the Ohio State University faculty until 1938. Dr. Bennett served as director of research for the Electronic Research Corp. until 1941, and has eighteen patents. In 1941 he was called to active duty in the Army and assigned to the Signal Corps with the rank of major.

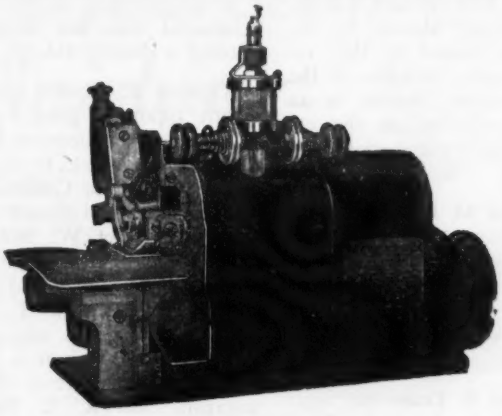
J. Edward Kale, Jr., has been elected a director of the Hampton Co.

Harold Chapell, associated with American Bemberg Corp., Elizabethton, Tenn., since 1929, resigned recently to accept the position of president and treasurer of Cleveland Silk Mill, Cleveland, Tenn.

Helen H. Stauffer (widow of Harry W. Stauffer) was elected president and treasurer of the York Narrow Fabrics Co., York, Pa.; and **F. L. Olweiler** was elected vice president and comptroller.

A. J. Sullivan has become treasurer of the Plymouth Printing Co., Fall River, Mass. He resigned as manager of Textile Printers, Warren, Mass., to accept the new position.

Hyman L. Battle, treasurer and manager of Rocky Mount



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CRANE Knitting Machines meet the demands of rapidly changing patterns and styles. Their middle name is versatility . . . plus smooth, fast running operation that eliminates expensive stops. Among their exclusive features are patented hardened Wing Burr Wheels and patented Thread Stop Motion. There's many a Knitting Mill in which batteries of Cranes are the mainstay of production.

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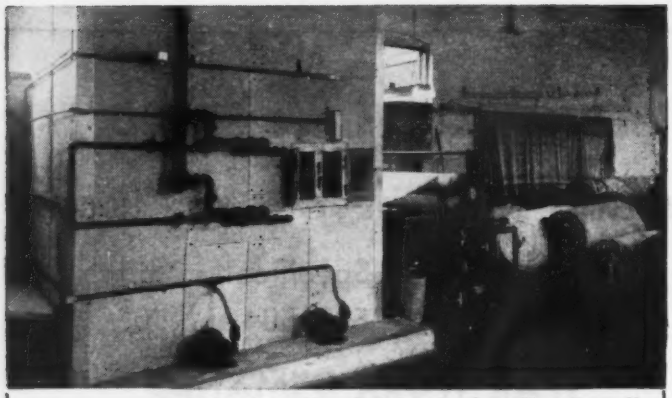
LAKEPORT, N. H.

Spring Latch Needle
KNITTING MACHINERY



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Every engineer faces this problem. How can a ball bearing be installed on crankshafts, gear clusters, shaft flanges, connecting rods and similar apparently inaccessible places? Our Engineering Staff went to work. They found the answer. By a special patented process — we cracked the bearing in two. Result: a Split Bearing, made to A. B. E. C. 1 precision tolerances — that gives the same performance as a solid race bearing, PLUS the fact that it is divisible. Made in ball or roller, in radial or thrust type, for efficient, long-life performance.

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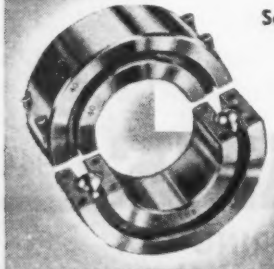

·DIVISIBLE RACE BEARINGS·

SPLIT BALLBEARING CORPORATION

LEBANON, NEW HAMPSHIRE, U. S. A.

NEWS ABOUT MEN

Mills, Rocky Mount, N. C., has been loaned by that organization to the office of the Quartermaster General as an expert consultant in the coordination of the cotton yarn program.

Herman M. Coulter has retired as treasurer of the Goodyear tire-cord plant in New Bedford, Mass., but will remain in an advisory capacity. **J. H. Akes** succeeds him as treasurer.

Richard B. Leake has been appointed head of the New York office of the Russell Mfg. Co., Alexander City, Ala. Mr. Leake resigned several months ago as chief of the textile products, knit goods, and apparel branch of OCR.

W. G. Hicks has been appointed assistant general manager of Belding-Corticelli Ltd., Montreal, Que., Canada. **John P. Kennedy** has retired as treasurer after 57 years of service, and **L. B. Ramsey** has been appointed successor. **R. A. Hayden**, manager of the Toronto office succeeds Mr. Hicks as general sales manager, and **H. H. Bland** succeeds Mr. Hayden.

Prof. Charles A. Kraus of Brown University has been elected a regional director of the American Chemical Society to succeed **Prof. Arthur J. Hill**, of Yale. **Dr. Edward R.** Weidlein, director of the Mellon Institute for Industrial Research, has been re-elected a regional director. **Dr Willard H. Dow**, president of the Dow Chemical Co., has been re-elected a director-at-large.

Gordon E. Hanks was recently appointed general manager of Joseph Simpsons Sons, Ltd., Toronto, Ont., to succeed the late **Miss C. Conlin**, former president and general manager. **Mrs Janet W. Simpson** is now chairman of the board and **M. P. Hyndman**, has been appointed president. **T. Doherty** continues as vice-president. **W. H. Wilson** is sales manager and a director of the company and **R. A. Norval** succeeds Mr. Hanks as secretary.

Wert B. Rhyne, secretary of Howell Mfg. Co., Cherryville, N. C., has been elected to the additional office of treasurer succeeding **Carl A. Rudisill**, resigned.

John W. Hanna, of New York, on Jan. 18, acquired a majority of the stock of the Mansfield Cotton Mills, Inc., Lumberton, N. C., for more than $400,000.

Charles Everett, credit manager of the rayon division of E. I. du Pont de Nemours & Co., was elected president of the Rayon Yarns Credit Association, replacing **A. J. Maguire** of American Viscose Corp. **J. E. Chambers**, credit manager of Celanese Corp. of America was elected vice-president; and **John J. Burke**, credit manager of Tubize Rayon Corp., was elected treasurer. Members of the Board of Governors elected for a two-year term were **John J. Burke**,

PERLEY S. WILCOX (left) who has been elected vice-chairman of the board of directors of the Eastman Kodak Co. He is now chairman of the board of the Tennessee Eastman Corp. JAMES C. WHITE (right) formerly vice-president and general manager of the latter company, has become president of that organization.

Mr. Wilcox was first employed by the Eastman Kodak Company in 1898 as a mechanical engineer at Kodak Park. When the Tennessee Eastman Corp. was established, Mr. Wilcox went to Tennessee in charge of the new organization. The growth of that enterprise into a major producer of yarn, plastic molding materials, and other cellulose-acetate products, with a plant employing more than 6,500 people, has occurred under his leadership.

Perfect Seams for Finishing

EVEN when operated by the lowest paid help, the Dinsmore No. 1 Hand Power Portable Railway sewing machine provides faultless seams.

This machine does its work anywhere, being easily moved about at will. It is an efficient practical means of joining the ends of cloth for its passage through such finishing operations as shearing, dyeing, printing, etc.

These machines will saw wet or dry, thick or thin goods, and are built in different lengths for any width of cloth.

The seam can be sewed very near the edge and is easily removable. *The edges come out all even.* Write for complete catalog.

DINSMORE MFG. CO.

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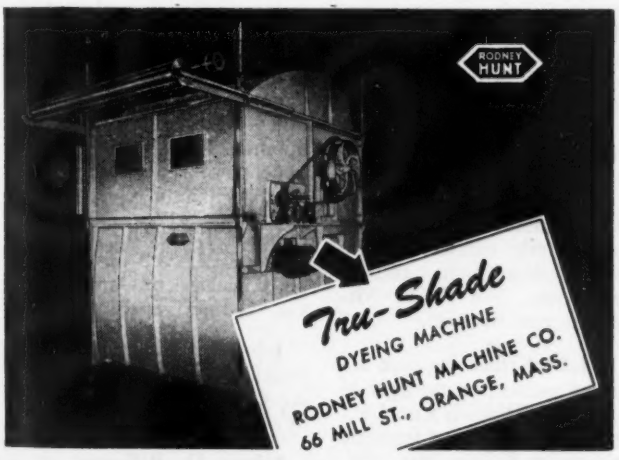

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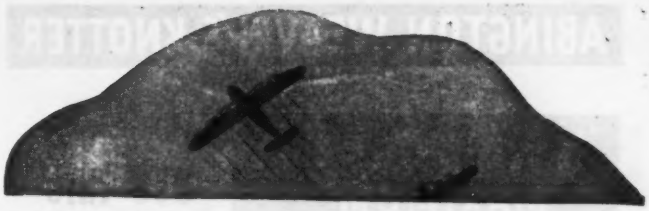

"FIRST THINGS COME FIRST"

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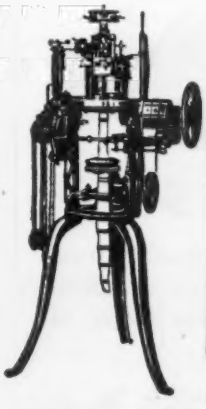
Your Uncle Sam has right of way insofar as our facilities are concerned. His requirements and his orders come FIRST, and we are proud to serve our country. At the same time, we regret that it may be necessary to ask our customers — users of Brinton Knitting Machines — to wait, until we can care for their needs.



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BUY WAR SAVINGS BONDS AND STAMPS

ABINGTON WEAVER'S KNOTTER

Use this Knotter to safeguard production

This automatic knotter boosts production 2 ways: by tying knots faster, and by tying them surer. Puts positively non-slip weaver's knots in all counts of yarn. Makes tails any length from ¼" down to minus 1/16". Automatically scissor clips the tails. Knots are very compact, acceptable in thread and coated fabric yarns.

Request Knotter Catalog

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Vacuum Card Strippers – Yarn Dyeing Systems – Weaver's Knotters
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Engineers
TEXTILE MILLS • CHEMICAL PROCESS PLANTS
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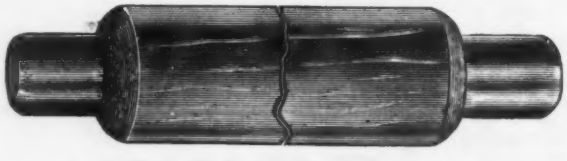

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Since 1900 we have made high quality true-form over-seasoned dye sticks for all standard machines. We can fill your needs today to meet any requirement. Write

FRANK BAILEY Cedar Brook, N. J.

NEWS ABOUT MEN

Tubize Rayon Corp., **J. E. Chambers,** Celanese Corp. of America, **Charles Everett,** E. I. du Pont de Nemours & Co., **A. M. Reed,** North American Rayon Corp., and **George Richter,** Skenandoa Rayon Corp. **J. Epstein** of Malina Co., and **A. J. Maguire,** of American Viscose Corp. remain on the Board, each having one more year to serve.

H. M. Bailey, Jr., formerly vice-president of Atwood Machine Co., has joined Textron, Inc., New York, as manager of its converting department. Mr. Bailey was with North American Rayon Corp for 12 years previous to joining Atwood in 1941.

Marion W. Heiss has been elected president of Revolution Cotton Mills, Greensboro, N. C., to suceed **Herman Cone,** who was reelected chairman of the board of directors.

Julian M. Longley has resigned as general manager of American Thread Co., Dalton, Ga., after seven years with that company, and associated with J. K. Dickson, has established the Dalton Textile Corp., Inc., also at Dalton.

James W. Harrell, superintendent of the bleachery of Ware Shoals Mfg. Co., Ware Shoals, S. C., has been appointed to the newly-created position of assistant general manager. He is succeeded by C. K. Brooks, previously assistant superintendent. **S. B. Carson,** formerly overseer of the vat dye department, suceeds Mr. Brooks, and **R. F. McKown** is now overseer.

E. J. McKennas has been appointed production manager of Horn Bros. Woolen Co., Ltd., Lindsay, Ont. He was formerly manager at Patton Mfg. Co., Sherbrooke, Que.

Howard F. Whitworth has been appointed managing director of Gastonia Weaving Co., Gastonia, N. C., succeeding the late James W. Fox. Mr. Whitworth has been with the company for 19 years and for the last four years was a departmental superintendent.

Maxwell Covert, former manager of Penmans, Ltd., knitting mill in Ayr, Ont., was recently transferred to Port Dover, Ont., where the company is opening a plant. His place in Ayr was taken by **Alan J. Roberts** from the main plant in Paris, Ont.

Norman Earl Smith has resigned as assistant athletic coach at the Gastonia high school, Gastonia, N. C., and has accepted the position as director of recreation and community activities at Marion Mfg. Co., Marion, N. C.

Richard F. Eshleman has been appointed head of the Knitting Division of the American Viscose Corp.'s Textile Research Department at Marcus Hook, Pa., replacing **Edmund L. Lauber,** who recently joined No-Mend Hosiery Mills, Philadelphia, Pa., as vice-president. Mr. Eshleman has been Mr. Lauber's assistant for several years, and prior to joining the American Viscose Corp., was with Textile Machine Works. Mr. Lauber was one of the original members of the American Viscose Corp.'s Textile Research Department.

Miss Bee Bradshaw has joined the advertising and sales promotion department of Celanese Corp. of America. Miss Bradshaw's past affiliations in the buying and merchandising field, include promotion for Gotham Hosiery Co.; sales promotion and fashion directing for B. H. Wragge, Inc., and resident buyer of sportswear for Marshall Field & Co.

Albert D. Fanning and **Raymond E. Wilkinson** have established a new wool firm at 246 Summer St., Boston, Mass., under the name of the Fanning, Wilkinson Co.

John Thompson, of Burlington, N. C., has become office manager of Gaffney Mfg. Co., Gaffney, S. C.

John D. Aikenhead, formerly associated with Cudahy Packing Co., has joined Houghton Wool Co., Boston, Mass.

Sidney H. Ballenger, manager of Victor-Monaghan Mill, Walhalla, S. C., has been appointed mayor of Walhalla, following the induction into the army of the city's mayor.

Maurice Fischer and **Samuel Simons** have been appointed co-managers of the credit departments of Cohn-Hall-Marx and affiliated companies, to fill the post left vacant by the death of Maurice Bretzfield.

Arthur Dooley resigned from the sales office of Liberty Hosiery Mills, New York, to join the advertising staff of *Underwear & Hosiery Review,* Jan. 15.

GOOD CHEMICALS FOR COTTON GOODS

V VIRGINIA

"VIRGINIA" (SODIUM) HYDRO

A dependable Hydrosulfite for Vat Dyeing and Stripping.

1. Crystalline, stable
2. Free-flowing; non-caking
3. Easily and Quickly soluble

Packed in 250 lb. *airtight* containers.

"VIRGINIA" (LIQUID) SO_2 THE IDEAL ANTICHLOR

The "Old Reliable" of the finishing plant. Low concentrations...

— remove active chlorine
— neutralize residual alkalinity
— eliminate excessive washing

Constant make-up by continuous flow to the pit. Shipped in steel cylinders containing 150 lb. net weight.

VIRGINIA SMELTING CO.
WEST NORFOLK, VIRGINIA

THE STANDARD DE-SIZING AGENT

RAPIDASE

Dependable, speedy and economical de-sizing ... Our technical staff always at your service.

• for cottons
• rayons and
• mixed goods

WALLERSTEIN CO., INC.
180 MADISON AVENUE, NEW YORK

ROME SOAP MFG. CO.

WRITE US FOR SAMPLES AND QUOTATIONS

MANUFACTURERS OF
Textile, Laundry
and
Special Soaps
ROME, N. Y.

D. R. KENYON & SON
RARITAN, N. J.

TENTERING and DRYING MACHINERY

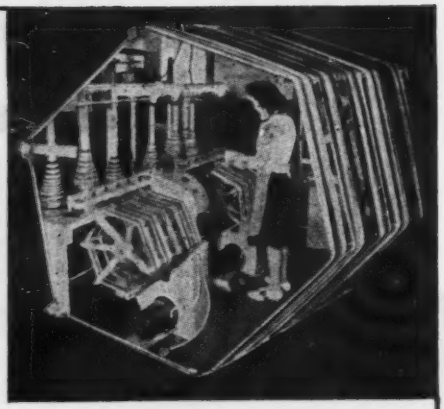
Your Standard Specification for Silicates

STANDARD INSURES SATISFACTION

ALKALI

DIAMOND ALKALI COMPANY
STANDARD SILICATE DIVISION
PITTSBURGH 22, PA. and Everywhere

While one machine winds skeins, operator doffs other unit.



20% to 30% more skeins an hour..

up to 50% less floor area..

with

FIDELITY

TWIN-UNIT SKEIN REELING SYSTEMS

Twin-unit System keeps your operators "on top of the work" with less fatigue. Collapsible arms on reels. Doffing a simple one-arm operation. Automatic yardage control. 50- to 60-second doffing cycle. Compact construction saves space, steps.

Two types. Double-End to wind 12 skeins, designed for rayon, nylon and the finer counts of yarn. Equipped with adjustable reels for skeins 33" to 60". Variable speed drive, 150-400 R.P.M.

Single-End, 6 skeins, for worsted and coarser counts of yarn. Operating speed, 103 R.P.M. Can be equipped with larger reel for skeins, 45" to 75" circumference. Single-End types may be equipped with variable speed. Write for bulletin.

FIDELITY MACHINE COMPANY

3908-18 FRANKFORD AVENUE, PHILADELPHIA 24, PA.

TO MANUFACTURERS SEEKING AN EXPORT MARKET

Leading American Foreign Trader with record of 50 years successful operations in foreign markets is seeking additional lines of important American producers of cotton gray goods, cotton yarns, printed voiles and ribbons for distribution throughout the Orient and Latin America.

Head sales office for Latin America is established in Buenos Aires. Pre-war connections in the Orient will be immediately re-established when conditions permit. Sales agencies under guidance of experts experienced in each market.

If you are seeking clean aggressive representation write us details of your products for both immediate and postwar selling. If interested we will have a representative call on you for further discussions.

RA-182, Textile World
68 Post St., San Francisco 4, Calif.

INDUSTRIAL ENGINEERS

Specializing in

TEXTILES FOR MORE THAN A QUARTER OF A CENTURY

RALPH E. LOPER CO.

COST SYSTEMS WORK LOAD STUDIES
PAY ROLL CONTROLS
COST REDUCTION SURVEYS SPECIAL REPORTS

GREENVILLE S.C. FALL RIVER MASS.

NEWS ABOUT MEN

Baxter S. Sellars, Greensboro, N. C., has retired after more than 25 years of service with Cone Export & Commission Co., New York. He was assistant purchasing agent for the Proximity Mill, and later held the positions of sales department manager and manager of the sample and printing department for the Cone Export & Commission Co.

Leo Zins recently joined Frank Ix & Sons, New York, N. Y., as a technician. He was formerly for 13 years with the rayon division of E. I. du Pont de Nemours & Co.

J. B. McGinnis of Rockingham, N. C., has been named manager of a branch of the U. S. Rubber Co. which is being opened at Burlington, N. C., and will be operated as a rubber-textile plant.

James Hatfield has been made expeditor in charge of production in the yarn division, R. Wolfenden & Sons, Attleboro, Mass. He was formerly night superintendent.

Hugh Cameron was recently appointed superintendent of the Holdsworth-Toronto Division, Toronto, of Consolidated Piece Dyers, Ltd., Cobourg, Ont. Mr. Cameron was formerly superintendent of dyeing at this plant.

Joseph A. Dancewicz has been appointed superintendent of Blackstone Mills, North Smithfield, R. I., plant of the Lonsdale Co. **Thomas Ogden**, formerly assistant weaving overseer, has been made overseer; and **Earl E. Mathewson**, formerly of Paul Whitin Mfg. Co., is overseer of spinning.

Ross P. Penry, for a number of years superintendent of the Pannill-Walker Underwear Co., Martinsville, Va., recently resigned to become superintendent of the Old Dominion Knitting Co., which began operations at Galax, Va., in January.

T. C. Drew has become superintendent of Startex Mills, Tucapau, S. C. He was formerly superintendent of Gaffney Mfg. Co., Gaffney, S. C.

W. M. Allison has been appointed superintendent of the bleachery of the Startex Mill, Tucapau, S. C.

Frank G. Revels has been promoted to superintendent of weaving at Steel Mills, Rockingham, N. C.

CARL TABER, of the acetate division of the rayon department of E. I. du Pont de Nemours & Co., New York, who has been elected president of the American Association of Textile Technologists, succeeding Lt. W. F. Macia. Ephraim Freedman of Macy's Bureau of Standards and Dr. George Linton of the Central Needlecraft High School were elected first and second vice presidents, respectively. Bernice S. Bronner, of American Standards Association, was reelected secretary, and Ralph Gatekunst, of Hellwig Silk Dyeing Co., was reelected treasurer.

R. F. Redding, formerly chief control engineer for the MMC Division of the Callaway Mills, LaGrange, Ga., has become superintendent of New City Mills Co., Newton, N. C.

Bill Clarenback has retired as superintendent of M. T. Stevens & Sons Co. mill at North Andover, Mass., after 44 years of service. His successor is **Donald A. Buchan**, former assistant superintendent.

E. T. McClure has been appointed superintendent of Bibb Mfg. Co., No. 2, Macon, Ga., and **B. Funderburke** has become overseer of twisting and winding at the same unit.

Cole B. Moore, formerly second-hand of carding at the Williamstown, S. C., plant of Gossett Mills, is now overseer of carding at Martinsville Cotton Mills Co., Inc., Martinsville, Va.

L. A. Starnes has been made superintendent of Circle M Cotton Mills, Inc., Poulan, Ga. He has resigned his position with the Locke Cotton Mills Co., Concord, N. C.

L. E. Fields has resigned his position with the Columbus Mfg. Co., Columbus, Ga., to become superintendent of weaving at unit No. 1, of Cowikee Mills, Eufaula, Ala.

The Finest Bearings Ever Made...

In fineness of finish and uniform physical characteristics Bunting Cast Bronze Bearings and Precision Bronze Bars today surpass any such products ever before manufactured in volume. Methods and equipment developed for war are making these finer bearings available for all applications in machine tools, industrial machinery and electric motors. Carried in stock in hundreds of sizes by leading wholesalers in all markets. Write for catalog. The Bunting Brass & Bronze Company, Toledo 9, Ohio. Warehouses in principal cities.

Bunting

BRONZE BUSHINGS ☆ BEARINGS ☆ PRECISION BRONZE BARS

WE'VE LEARNED A LOT IN OUR 50 YEARS

50 years of specialized experience in producing tanks and tubs for the textile industry *has taught us some things that will be valuable to you!*

Let us tell you about our complete Caldwell service, which includes Stainless Steel-lined tanks and tubs—round, rectangular and special shapes. *Catalog on request.*

W. E. CALDWELL CO.
INCORPORATED
2060 Brook St. Louisville, Ky.

Caldwell TANKS and TOWERS

Prompt Delivery

ON BOTH STANDARD TYPES

— on **STEELGRIP** Steel Lacing that is applied with a hammer. 11 sizes — convenient boxes or long lengths with wide belts. Have 2-piece hinged rocker pins.

—on **WIREGRIP** Belt Hooks that are applied with any lacing machine and come with extra blue aligning cards (patented) that assure uniform tension on every hook and prevent card-end waste.

Write for Circulars

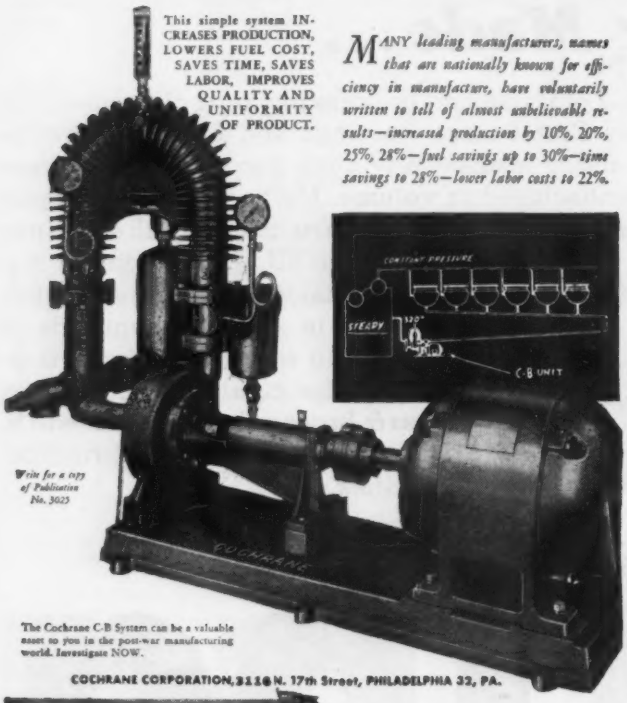
ARMSTRONG-BRAY & CO.
"The Belt Lacing People"
5340 Northwest Highway, Chicago 30, U.S.A.

ALL STEEL
ECONOMY BALING PRESSES
ALL SIZES FOR ALL PURPOSES
LARGEST LINE BUILT IN U.S.A.

ECONOMY BALER CO., DEPT. J ANN ARBOR, MICH., U.S.A.

REPRESENTATIVES:
New York Office: 100 Gold St. Philadelphia Office: Drexel Bldg.
Terrell Machine Co., 1200 No. Church St., Charlotte, N. C. Boston Office: 601 Atlantic Ave.
Other Sales and Service Branches in most Important Cities.

This is the Heart of the COCHRANE C-B SYSTEM of High Pressure, High Temperature Condensate Return


This simple system INCREASES PRODUCTION, LOWERS FUEL COST, SAVES TIME, SAVES LABOR, IMPROVES QUALITY AND UNIFORMITY OF PRODUCT.
MANY leading manufacturers, names that are nationally known for efficiency in manufacture, have voluntarily written to tell of almost unbelievable results—increased production by 10%, 20%, 25%, 28%—fuel savings up to 30%—time savings to 28%—lower labor costs to 22%.
STEADY
C-B UNIT
Write for a copy of Publication No. 3025
COCHRANE
The Cochrane C-B System can be a valuable asset to you in the post-war manufacturing world. Investigate NOW.

COCHRANE CORPORATION, 3116 N. 17th Street, PHILADELPHIA 32, PA.

COCHRANE C-B SYSTEM

CONDENSATE RETURNED TO BOILERS AT HIGH PRESSURE AND HIGH TEMPERATURE

ARTIFICIAL LEATHER -COATED FABRICS-
Slit into strip and wound into rolls all in one operation with CAMACHINE 9-5
CAMERON MACHINE COMPANY · 61 POPLAR ST. BROOKLYN 2, N. Y.
Midwest Office 111 W. Monroe Street Chicago 3, Ill.

NOVELTY-YARNS
For
WEAVERS-KNITTERS
MONTGOMERY
WINDSOR LOCKS, CONN.
Designers and Spinners of Novelty Yarns

Men in Armed Services

Col. Clyde B. Bell has assumed command of the Charlotte Quartermaster Depot, Charlotte, N. C., succeeding the late Col. C. W. Woodward, who died recently. Col. Bell recently returned from duty in the Pacific.

J. C. Harris, of Anderson, S. C., now serving with the Army in the European area, has been promoted to lieutenant-colonel. A graduate of North Carolina State College, he was formerly associated with Union Bleachery, Greenville, S. C.

Richard C. Forrester, Jr., of Sumter, S. C., a textile engineer for the Tennessee-Eastman Corp., Kingsport, Tenn., before entering the Army, has been awarded the Bronze Star for meritorius services in military operations against the enemy at Emirau, St. Matthias Group, Bismarck Archipelago. He is a captain.

Capt. J. D. Lemay, who was on the staff of the Goodyear Cotton Co. of Canada, Ltd., St. Hyacinth, Que., before entering the Canadian army was wounded recently while serving in France.

C. Augustynowicz recently returned home on leave after serving with the Canadian Army overseas. Before enlisting he was superintendent of dyeing at the Valley Dyeing and Finishing Co., Ltd., Valleyfield, Que. He was wounded while on active service in France.

Bernard D. Snow, former operating executive of Goodyear-Clearwater Mills, Rockmart, Ga.; Stonewall Cotton Mills, Stonewall, Miss.; Whittier Mills, Chattahoochee, Ga., and others, suffered the loss of both legs while in action as a lieutenant with the Army in Europe. He is now reported convalescing at a hospital in England.

Cline M. Hendricks, son of Maurice Hendricks, general manager of the Cliffside Mills, Cliffside, N. C., has been seriously wounded in action in Western Europe.

Harold W. Rehfeld, tire technician of The B. F. Goodrich Co., Akron, Ohio, has been named expert consultant to the Commanding General of the Army Service Forces in Europe with headquarters in France.

Obituary

Frederick B. Macy, 80, former president of the National Association of Cotton Manufacturers, and for many years prominent in the textile industry at New Bedford, Mass., died Jan. 12. He was head of the textile brokerage firm of F. B. Macy & Co.

Irving Sherry, president of the Gail Knitting Mills, Reading, Pa., died recently at his home in Brooklyn, N. Y.

George C. Skelley, 62, senior member of James G. Kitchen Co., Philadelphia, Pa., died recently. He had been associated with the wool importing firm for 45 years.

Frank Porter Toone, 76, Los Angeles, Calif., former textile manufacturer, died recently. A native of Needham, Mass., Mr. Toone came to Los Angeles 45 years ago with the city's first knit goods plant.

Eugene S. Redding, 53, assistant vice president and sales manager of American Yarn & Processing Co., Mount Holly, N. C., died recently.

Arno Seifart, 24, former assistant treasurer of Hudson Knitting Co., Hudson Hosiery Co., and Oakhurst Knitting Co., all of Charlotte, N. C., was killed in action in France on Nov. 18. He was serving as private first class.

M. Bradford Hodges, 52, southern representative for Roger W. Cutler Co., American Paper Tube Co., and other manufacturers of textile mill supplies, died recently at Atlanta, Ga.

James W. Fox, managing director of Gastonia Weaving Co., Gastonia, N. C., died Jan. 7.

William Higginson Simpson, former manager of domestic fabric sales for Dominion Tex-

AMERICAN

. . . more economical to use because . . . .

it runs more efficiently, producing a finer quality product that can be sold easier and more profitably

AMERICAN
YARN AND PROCESSING CO

MOUNT HOLLY, NORTH CAROLINA

CHATTANOOGA, TENN.
Mr. Tom Moore
735 Chestnut Street

PHILADELPHIA, PA.
Mr. Wm. S. Montgomery
3701 N. Broad St.

HIGH POINT, N. C.
Mr. E. J. Holbrook

MOUNT HOLLY, N. C.
Mr. Edwin Hutchison
Miss E. R. Abernethy
Mr. T. J. Davis

NEW YORK, N. Y.
Mr. Rowland Swallow
Empire State Bldg.

CHICAGO, ILLINOIS
Mr. E. W. Wood
222 West Adams St.

Simplified **DESIGN**
Flexible **POWER**
Better **EVAPORATION**
More sensitive **CONTROL**

SOUTHWORTH HUMIDIFIER

Experienced textile men who know the merits of previous models of Southworth Humidifiers have found improvements in Model D that make it even more reliable and efficient.
Extreme sensitivity of control, and an "airplane propeller" type fan for greater evaporation, are two outstanding features.

NOTE
This advertisement is to remind you to include Southworth Humidifiers in your after-the-war plans. Frankly, we are 100% on war work and cannot make humidifiers at the present time.

THE SOUTHWORTH MACHINE CO.
PORTLAND MAINE

CHAPMAN STATIC NEUTRALIZER

Reduces waste and Stabilizes the production rate in many operations

USED ON

CARDS - CONDENSERS - DRAWING FRAMES
SLASHERS-WARPERS-GARNETTS-FOLDERS-DRYERS
NAPPERS - SHEARS AND MANY OTHER MACHINES

CHAPMAN ELECTRIC NEUTRALIZER CO.
BOX 268, PORTLAND, MAINE

tile Co., Ltd., died recently in Montreal. Prior to joining the sales department of the Dominion Textile Co. in 1909, he was with Morrice & Sons, and John Gordon & Sons, both of Montreal.

Dr. Henry Dreyfus, chairman of British Celanese, Ltd., London, Eng., and a pioneer in the synthetic fiber industry, died last month. He was a vice-president of Celanese Corp. of America.

Harry M. Leslie, 67, head of Leslie, Evans & Co., New York, and a long a prominent figure in the Worth Street district, died Jan. 18.

Benjie Stillman Clarke, for 24 years in the woolen business in Stayton, Ore., died recently.

P. Henry Fisher, 67, treasurer of Fisher Hosiery Co., Reading, Pa., died Jan. 11.

George Whitman Smith, 46, assistant to plant manager of Springs Cotton Mills, Fort Mill, S. C., died recently.

C. P. Tillotson, 47, assistant manager and paymaster of Appalache unit of Victor-Monaghan Co., Arlington, S. C., died Jan. 11.

C. E. Clark, Jr., outstanding student in textiles at N. C. State College, who was associated with the Entwistle Mfg. Co., Rockingham, N. C., before going into the Army, was killed in action on Leyte Island Nov. 23. He was a captain.

E. Howell Dorland, 56, buyer for Real Silk Hosiery Mills, Inc., Indianapolis, Ind., died recently.

R. S. Lewis, 64, secretary and treasurer of Moroweb Cotton Mill Co., and the old Monarch Mills, Dallas, N. C., for many years, died recently.

Charles Davis, 83, for many years master mechanic at the Leicester Woolen Mill, Leicester, Mass., died at Worcester, Mass., Dec. 23.

Clarence V. Parsons of Richland, Pa., Army staff sergeant, who has been missing in action over Holland since September, is now reported dead by the War Department. He was timekeeper for the Textile Machine Works at Reading since 1923.

Luther A. Haas, 44, died at his home in Jackson, Ala., recently. A former resident of Reading, Pa., he was employed as foreman in a Vanity Fair, Inc., plant in Jackson.

Dennie V. Vaughn, 59, for 22 years master mechanic at Trenton Cotton Mills, Gastonia, N. C., died Jan. 1.

James Russell, 30, superintendent of spinning of Mutual Plant of Textiles, Inc., Gastonia, N. C., died Dec. 24.

Thomas J. Bagwell, 71, superintendent of Henrietta Cotton Mills, Henrietta, N. C., since 1929, died Dec. 25.

G. A. Gatlin, former night superintendent of the Dallas unit of Texas Textile Mills, Dallas, Tex., died recently.

Barron Warwick, Sr., 65, engineer for Fulton Bag & Cotton Mills, Marietta, Ga., was killed recently by an automobile.

William J. Speere, 79, superintendent of Rockwood Hosiery Mills, Rockwood, Tenn., for 30 years until his retirement recently, died Jan. 5.

James L. Welpley, 83, retired textile colorist, who had been connected with Pacific Mills in Dover, N. H., and Lawrence, Mass., and Amoskeag Mfg. Corp. in Manchester, N. H., died recently at Manchester.

Domicile M. Nolet, 68, textile executive, died recently in Manchester, N. H. He was superintendent of the former Stark Mill for 20 years, and overseer at the Amoskeag Mills for 29 years and at the Amoskeag Lawrence Co. for the last two years.

E. M. Gardo, 67, head of the warping department of Judson Mills, Greenville, S. C., died recently.

Calvin Lawrence Spargo, 58, former superintendent of Lola Mills, Stanley, N. C., died Jan. 18.

Ernest Barber, 78, retired silk manufacturer of Paterson, N. J., died Jan. 5. Born in Macclesfield, England, Mr. Barber came to this country at the age of 25 and founded the Pearson & Barber Silk Mills at Paterson. In 1910 established the Wechsler & Barber Silk Co.

Walter Zielinski, 47, former overseer at Amoskeag Industries, Inc., in Manchester, N. H., died recently.

STYLE 2B

ROVING TRUCK

LANE CANVAS TRUCKS

For the well equipped mill

W. T. LANE & BROS., Inc.

Manufacturers, Poughkeepsie, N. Y.

We are interested in purchasing control of, or substantial interest in textile properties.

All replies treated in confidence

WERTHEIM & CO.

Members New York Stock Exchange

120 Broadway — New York 5, N. Y.

SEARCHLIGHT SECTION

POSITIONS VACANT

KNITTER AND mechanic on seamless hosiery machines. Excellent opportunity. Apply—Ainslie Knitting Machine Co., Inc., 750 Grand Street, Brooklyn, N. Y.

WOOLEN CARDER wanted for plant of one card and one mule exceptional position to right party, state full particulars, confidential. P-191, Textile World, 330 W. 42nd St., New York 18, N. Y.

AN Ohio manufacturer requires man with the ability to study applications of a new product in the textile field, and promote its sale. Should be under 40, free to travel, have initiative and a sales personality. He should be experienced in the field of textile sizes, coating and finishes. A chemical background would be helpful. Position can be developed into one of broad responsibility and opportunity. P-192, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

(See also pages 292 and 293)

POSITIONS WANTED

SUPT. OR overseer weaving warping slashing cotton rayon nylons spun rayons dress goods satins shirting twills linings crepes novelty fabrics Draper Stafford box looms at present employed as boss weaver assuring quality production and low cost. PW-171, Textile World, 330 W. 42nd St., New York 18, N. Y.

PLANT ENGINEER Married, age 51. At present employed by a group of cotton and rayon mills, but wishes to make a change. Technical education. Experience covers wide range in cotton, rayon, woolen and worsted plants, also dyeing and finishing, in electrical and mechanical design, construction, operation, purchasing, repair and maintenance. Experienced in steam and hydro electric power generation. Licensed professional engineer. New England preferred. PW-197, Textile World, 330 W. 42nd St., New York 18, N. Y.

EXPORT MANAGER

ready to begin organization export department for well-rated medium-sized to large manufacturing company with product promising volume postwar exports. Willing at same time to help in war work until production part becomes available for export. Knows business with Supply Missions Allied Governments.

PW-188, Textile World
330 West 42nd St., New York 18, N. Y.

POSITIONS WANTED

TEXTILE EXECUTIVE available highly capable cotton manufacturer broad experience in yarns and fabrics including rayon, blends and mixtures. Successful record of aggressive modern management. American, 38, textile education, good reasons for seeking new connection and manager, agent or superintendent. PW-195, Textile World, 330 W. 42nd St., New York 18, N. Y.

TEXTILE EXECUTIVE 25 years experience in the manufacture of textiles as superintendent and manager. Knowledge of research and development of cotton, silk, rayon and nylon fabrics either narrow or wide. Full knowledge of Government requirements. Wish to connect with responsible company that will offer post-war security. PW-196, Textile World, 330 W. 42nd St., New York 18, N. Y.

TEXTILE MILL manager with wide experience in textile production management and office manager with wide experience in textile costs and accounting would like to operate textile plant, including sales management, for investor. Will guarantee a profit. Will furnish excellent experience and character references. PW-194, Textile World, 330 W. 42nd St., New York 18, N. Y.

MANAGER OF Cotton mill. Man with 25 years practical and technical experience producing carded combed and blended yarns, would like to be given the opportunity to manage an inefficient mill on a salary and bonus basis. At present employed. Age 45, married with a family. PW-198, Textile World, 330 W. 42nd St., New York 18, N. Y.

TECHNICIAN experienced on dobby and tacquard looms, designing, card cutting, loom fixing desires position as working foreman in progressive mill. Textile graduate, inventive, best references. PW-199, Textile World, 330 W. 42nd St., New York 18, N. Y.

FRENCH TECHNICIAN, middle aged, 35 years experience in wool and worsted spinning wishes to connect with interested party planning mill in Uruguay or Argentina. Best references at disposal. PW-200, Textile World, 330 W. 42nd St., New York 18, N. Y.

(Continued on page 291)

FABRICS GO TO MEXICO

American designer. European trained, formerly with Twentieth-Century-Fox and J. W. Robinson's. Presently handling fashions for top Mexican firm. Wishes to design dress or drapery fabrics including Latin-American inspirations if desired. Original ideas, excellent color sense. State series desired, fees on free-lance basis, etc.

M. MONETTE

Londres 31, Apt. 2, Mexico, D. F.

Position Vacant

SALESMAN-TECHNICIAN

Position open in post war program of established company to call on textile and paper mills as salesman and technician, to sell and demonstrate chemical products. Prefer chemical or mechanical training — under 35 years old. Salary would depend on qualifications and experience. State full particulars as to age, nationality, education, experience and family status.

SW-152, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED

Hosiery Knitting Machine FIXERS

for

Scott and Williams

and

Acme Machines

Bonuses

Locate with a company that has an enviable record for Steady Employment

P-150, Textile World
330 West 42nd St., New York 18, N. Y.

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SEARCHLIGHT SECTION
TEXTILE WORLD ANNUAL

FEBRUARY, 1945

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USED TEXTILE EQUIPMENT

PLANT, POWER AND MAINTENANCE EQUIPMENT
SPECIAL SERVICES TO THE TEXTILE INDUSTRY

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(FOR FURTHER INFORMATION, WRITE: DEPARTMENTAL STAFF, TEXTILE WORLD, 330 W. 42nd ST., NEW YORK 18, N. Y.)

3—46" x 52" Button Breakers

3—42" Butterworth 3-Roll Friction and Rolling Calender, 1—motor driven, 2-belt dr.

1—3 Cyl S & F Card Set 48" with feeds

1—60" D. & F. 2-cyl. Iron Shoddy Card

2—100 Spindle Foster Model 25 Doublers

1—36" Doubling & Winding Machine

1—68" P.&W. Doubling Machine, Mtr. Dr.

1—46" Windle Doubler

1—60" Windle Doubler, Winder and Measurer

1—6 Delv. Whitin Drawing Frame with 12" coiler, and motor

1—4 and one 6 delv. H & B dr. frame

1—28" Stick Klauder Weldon Skein Dyeing Machine

1—Franklin Package Dyeing Unit, incl. three 100-lb. and one 300 lb. machine, extractor and winders

1—Laboratory Hydro Extractor

1—30" American Laundry belt driven extractor

SPECIALS

1—80" Butterworth 3 roll Calendar

1—Complete Set Combers including:

1—Whitin Ribbon Lapper

1—Whitin Silver Lapper

8—Whitin Model "C" Combers

12—76" cloth Draper modified D automatic Looms, 81" reed space with Lacy tops for 6 harness work, motor driven

1—90" D.&F. Single Acting 14 Roll Napper

1—80' Butterworth clip Tenter with 80" opening

1—92" D & F Warpers with Beamers

4—82" D.&.F. Warpers with Beamers, etc.

2—54" Entwistle Warpers

2—Hunter No. 10 Fulling Mil's

10—40" C&M 42", 46", 50", 100" Folding Machines

1—52" James Smith Card Grinder

8—1200 h. Halton Jacquards, 9" l'ft

60—42" Modified "E" Draper with roller tops, 47½" reed space, belt driven

18—82" C & K 4 x 4 25 Harness Belt driven woolen looms

1—40" D & F Mixing Picker

2—40" H & B Single Process Pickers

2—C&M Fearnaught Pickers, 40" and 48"

1—66" Voelker Cloth Press

2—50" Dinsmore Inspecting, Sewing & Rolling Machines, Mtr. Dr.

1—41" Monforts 3 Blade Cotton Shear

MACHINERY LIQUIDATING COMPANY

OPA REGISTRATION NUMBER 789

EST. 1923

31-33 West 42nd Street — NEW YORK 18, N. Y.

DOMESTIC — TELEPHONE PEnnsylvania 6-8014 — EXPORT

DEALERS IN TEXTILE MACHINERY, ACCESSORIES AND MILL SUPPLIES

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3—66" C & M 2-Blade Shears
4—66" P & W 2-Blade Shears
1—66½" P & W Model A 2-Blade Shear
1—72" Monforts 2-Blade Shear
1—Schultze 106" Double Shear

1—Smith & Furbush Rag Shredder
1—42" C. & M. 5 Burner Gas Singer
1—82" Saco Lowell hot air Slasher
1—Phillips 2 cyl. cotton Slasher
1—Single cyl. Saco Lowell Slasher
6—24 Spindle Fairmont Drum Spoolers for 4½ x 6" spools
10,000—4½ x 6" Wooden Spools
6—120 Spindle Draper Spoolers wi. Tensions
2—Warp Compressor Machine Co., Multiple Jack Spoolers
1—60" C & M Tiger, Arranged for Mtr. Dr.
4—20 Spindle Universal #90 Filling Bobbin Winders, bottom supply
4—100 Spindle Foster #12 tube winders, belt driven
1—200-spindle Draper 2¼" Ring Tape Drive Twister

1—Barber Coleman Auto. Warp Tying Mach., size 4-E
24—72" Stafford 2x1 automatic Looms 77" reed space, 25 harness head motions, motor driven
1—Wm. Schofield Rag Picker, Reconditioned
1—24" Parkhurst Burr Picker, Reconditioned

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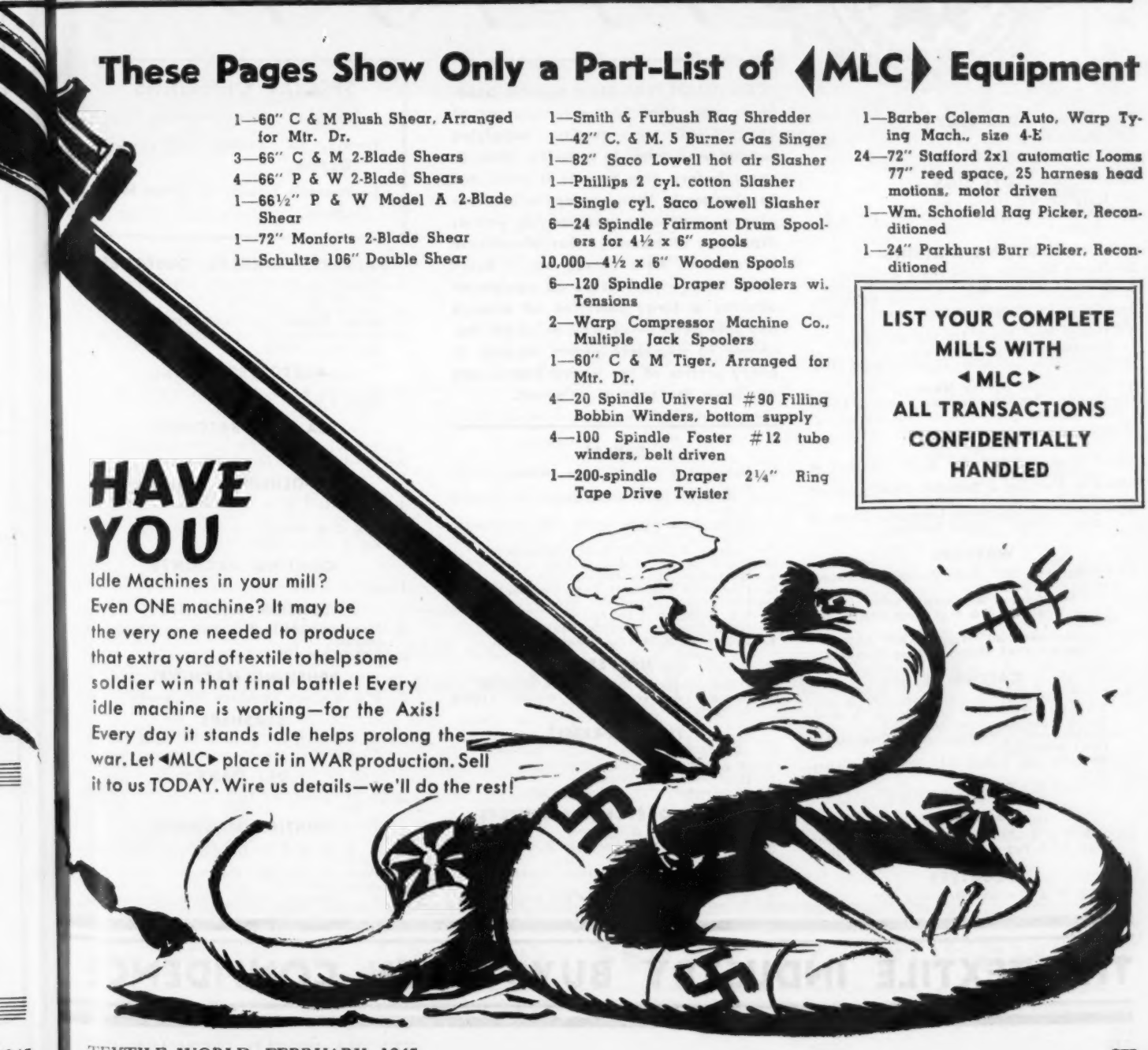

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Idle Machines in your mill? Even ONE machine? It may be the very one needed to produce that extra yard of textile to help some soldier win that final battle! Every idle machine is working—for the Axis! Every day it stands idle helps prolong the war. Let ◂MLC▸ place it in WAR production. Sell it to us TODAY. Wire us details—we'll do the rest!

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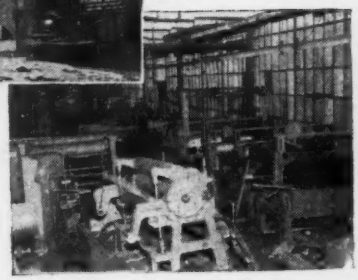

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"CONSOLIDATED" gives you the benefit of more than a quarter-century of EXPERIENCE in quickly supplying needed equipment to Industry. Now as never before, this Service is vital, due to changes in War production and replacement of worn machines, as well as expansion of industry. Our Warehouse in Paterson, New Jersey has 3 floors filled with a vast stock of equipment offering a large selection of modern and late design—as well as single machines to complete plants located in every section of the United States, and available for prompt shipment.

SPECIAL OFFERINGS

1—Sargent 3-Bowl Scouring Line.

1—V.V. 88" Palmer with 2-roll Quetch.

1—Franklin 3-color 45" Print Machine.

DYE BECKS

12—Morrison & V.V. 6′ to 9′ Dye Becks, stainless steel and wood tubs.

DYE JIGS

2—Morrison 60″ Dye Jiggs.
12—Morrison & Butterworth 45″, 72″ & 74″ Jiggs.

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2—Haveg Washers, completely enclosed.
1—Sargent 3-Bowl Skein Scouring machine.
6—Klauder-Weldon Skein Dyeing Machines.
1—Obermaier Combination Package & Rawstock Mch.
1—1000# Raw Stock Dyeing Machine.
1—Obermaier Dyeing Machine.
2—Buhlmann 100-arm skein dyeing machines.
1—Smith Drum Dyeing Machine.
3—Double Tier Combination Bean & Package Dyers.

EXTRACTORS

6—V.V. & Tolhurst 54″ & 60″; rubber & copper baskets.
8—V.V. Fletcher & Tolhurst 40-48″, copper lined.
10—Tolhurst, American Laundry, Bock, & Troy 14″-42″, copper baskets.

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1—Continuous 60″ Boil-Off Machine, steel tanks.
1—Van Vlaanderen 60″ Open Washer.
2—Open Washers, 5 & 8 compartments, 50″ face.
6—Compartment 30′ Washer, 66″ wide.
1—3-Compartment Monel Rotary Washer.

CALENDERS

2—V.V. Ball Bearing Calenders, 50″ & 60″.
6—V.V. Butterworth & Textile, 3, 6 & 7-Roll Hydraulic Calenders, 80″.
3—Butterworth & Perkins 40″, 54″ & 80″ 3-Bowl Schreiners.
1—Butterworth 3-Roll 54″ Friction Calender.
2—54″ and 65″ Embossers.

SHEARS

3—P & W 2-Blade Shears, 60″ & 66½″, complete with list saving device and brushes.

DECATERS

3—P & W & Gessner Decaters 72″.

DRYERS

3—National & P & S Loop Dryers, 30-65′ long.
1—P & S 72″ Raw Stock Dryer, automatic feed.
1—Phila. Raw Stock Dryer, 48″, automatic feeder.
3—Sargent & Hunter Wool Carbonizers.
4—Truck Dryers, 1 & 2 trucks.
1—Multipass Airlay Dryer.
6—Proctor & Schwartz Yarn Dryers.
1—Pin Tenter Dryer, 64″ wide.
1—V.V. 5-Tier Net Dryer.
2—Heathcote and Kenyon Cloth Dryers.
1—Proctor & Schwartz Hosiery Dryer.

NAPPERS

2—D & F single acting Nappers, 60 & 84″.
3—Gessner & Woonsocket double acting Nappers, 60″, 84″ & 90″.

TENTER FRAMES

1—Textile Fin. Mach. 90′x50″ Tenter.
1—W & J 80′x50″ Swing Tenter.
1—Heathcote Pin Tenter.
1—25′ Tenter with Bakelite clips.

PALMER QUETCHES & TENTERS

2—V.V. Palmers, 60″ & 72″.
3—Morrison & V.V. 50″, 60″ & 72″ Palmer Quetches.
1—Butterworth 84″ Palmer Quetch with Tenter.
2—V.V. & General Machine 60″ Palmerettes.

PADDERS, MANGLES, QUETCHES

5—Textile & Butterworth 2-Roll Padders, 50″, 62″ & 90″.
4—Butterworth 50″ 2-Roll Starch Mangles.
1—James Hunter 50″ Water Manger.
5—Butterworth & Morrison 2 & 3-roll Quetches, 50-72″.

BUTTON BREAKERS

3—Morrison & V.V. Button Breakers, 50-72″, brass rolls.

BEAMERS—BATCHERS

4—Van Vlaanderen 50″ & 60″ Beamers.
9—Batchers, 48″, 50″ & 72″.

FLAT FOLDERS & DOUBLERS

4—E & Hall Flat Folders, 42″-60″, with motors.
3—P & W & Windle 46″-60″ Doubling, Reeling & Measuring.

COATING MACHINES

Plastic and rubber coaters, 50″-72″.

SEWING MACHINES

5—Morrow 60ABB & 60D3B on stands and tracks.
3—Union Special and Singers.

BRUSHING MACHINES

2—P & W Cloth Brushers, 72″ & 100″.

SLASHERS

4—Saco-Lowell & Johnson Rayon & Cotton Slashers.

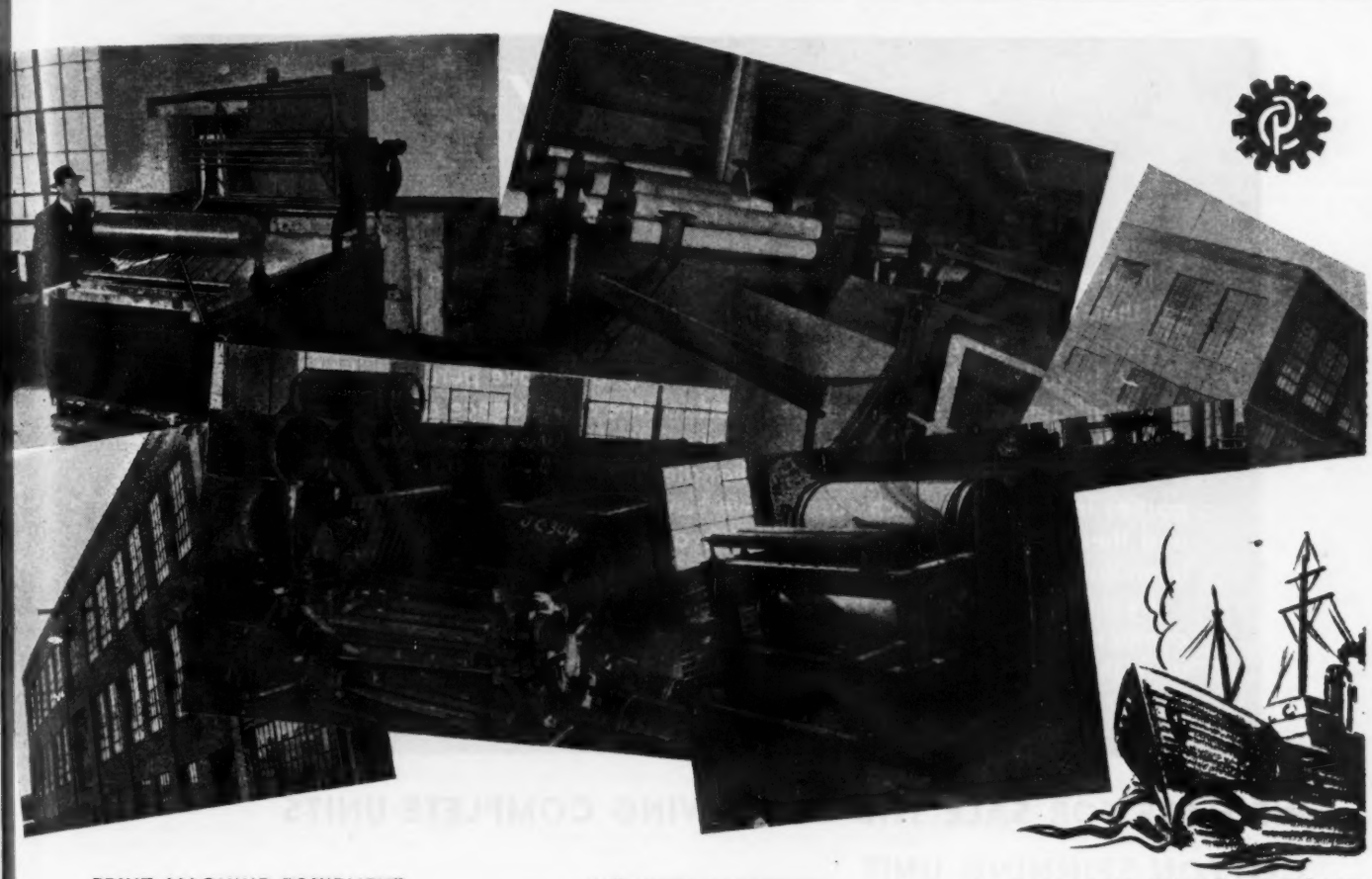
DRY CANS

416—Dry Cans, 50″ to 112″ face, 23″ to 84″ dia.

PRINTING MACHINES

7—R. B. & F 1-10 color Print Machines, 40″-60″.
1—Waldron 4-Color Wallpaper Print Machine.
1—V.V. 10-color Ribbon Print Machine.

THE TEXTILE INDUSTRY BUYS WITH CONFIDENCE



PRINT MACHINE EQUIPMENT

2—BTA & BTS Motors, 25, 35 & 50 horsepower. Star gears, mandrels, copper pans & doctor blades.

TUBERS

5—Tubing & Measuring Machines, 50″-60″.
1—Hermas 60″ Measuring Machine with motor.

ENGRAVING MACHINERY

10—Pantograph Machines, 52″-60″ face.
3—Turning Lathes, 60-64″ face.
4—Polishing Lathes, 60-72″ lg.
1—Etching Trough, 54″.

AGERS

3—Butterworth Cast Iron Agers, 12′, 18′ & 30′ long & 50-60″ wide.

KETTLES

9—Textile Copper Steam Jacketed Color Kettles, tilting, agitated, 240-150 gallons.

WEAVING MACHINES

24—C & K 92″ automatic looms.
13—C & K 82″ automatic looms.
10—Draper 79″ automatic looms.
52—C & K 52″ automatic looms.

CARDING MACHINES

6—Sets D & F Worsted Cards, 60 x 54″.
2—Sets D & F Worsted Cards, 60″ x 48″.
2—Sets S & F Worsted Cards, 54″ x 54″.
2—Furbush Worsted Cards, 48″ x 48″.
19—Sets D & F Woolen Cards, 48″ x 48″.
1—Sample Card, 48″ dia.
15—D & F Breaker & Finisher Cards, 48″ x 50″.
8—Sargent, Bramwell & Harwood Feeds, 26-72″.

SPINNING MACHINES

155—Whitin & D & F Spinning Frames, 240 spindles, 252, 2″ & 3″ gauge, band driven.
100—Deliveries H & B Drawing Frames, 12″ coilers.
12—Universal #50 & #90 Winders.
133—Fletcher double deck Twisters.
5—Fearnaught & S-L Pickers, 30-60″.
22—Whitin D-2 Combers.
12—Hetherington Sliver- & Ribbon Lap Machines.
1—Barker Triple Rub 3-Bank condensor.
3—High Speed Beam Warpers.
4—Panghorn Dust Collectors.
7—D & F 240 & 330 spindle Mules.
1—J & B 336 spindle Mule.
2—Foster #101 Cone Winders.
1—60″ Spiral Breaker.

WATER SOFTENERS

1—Permutit Water Softener, 103″ hg. 63″ wd.
2—10 x 10 Vertical Softeners, Zeolite.
3—Pressure Sand Filters, 8′ dia. x 20′ long, complete.

FULLING MILLS

2—James Hunter #10 Fulling Mills.
1—James Hunter Hammer Fulling Mill.

GARNETTS

3—James Smith 3-cylinder Garnetts.
1—P & S Single Cylinder 20″ x 60″ Garnett.
1—P & S 2-cylinder 20″ x 60″ Garnett.

MISCELLANEOUS

Skein Reelers, gas boilers, blowers, scutchers, expanders, trucks, generator sets, motors, tanks, modine heaters, exhaust fans, pleaters, gears, portable agitators, humidifiers, boilers, pumps, testers, etc.

SEND FOR OUR TEXTILE CIRCULAR

This Circular will serve as a guide to help you in your selection of needed Textile Machines. These machines are illustrated and described in detail in this Circular.

THE KEY TO SAVING TIME AND MONEY

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WE have been factors in these operations, and have purchased properties, confidentially, and have arranged for the continuance of the business, along lines that follow the wishes of the original owners.

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COTTON SPINNING UNIT

5,000 Spindles, with Picking, Carding, Slubbers, Intermediates, Motor Driven Spinning Frames, Motor Driven Twisters, Speeders, Winders.

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Six complete power plants, just purchased from the Georgia Power Company, which include:

22—High Pressure Water Tube Boilers, 200 to 600 H. P.

8—Turbo Generator Sets, Condensing, from 275 to 2750 K. W.; all auxiliary equipment.

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80—Motor Driven Crompton & Knowles Looms, for goods up to 72". Modern Winding and Inspecting equipment—all accessories.

KNITTING PLANT

120—Scott & Williams Circular Latch Needle Knitting machines, 10" to 22", 10, 11, 12 and 13 cut.

Large stock of new needles

REMEMBER ★ ★ ★ ★ ★ Republic Textile

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40 WORTH STREET NEW YORK CITY

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Excellent Textile Equipment

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100—Draper Model K 45" Looms, Belt Driven, 8" Bobbin.

20—4 x 1 C & K Hand Threading Looms, 43½".

190—1 Box Automatic Hopedale Plain Looms.

600—Draper Automatic Looms with Slashing Auxiliary equipment.

200—C & K 2 x 1 Looms.

200—600 hook C & K Double lift jacquard heads.

32—C & K #1304 Fine Index Double lift single cylinder heads.

WINDERS

20—Universal Winders with Bunch Builders.

SLASHER

1—Howard & Bullough Two-Drum Cotton Slasher, with 7' x 5' diameter Copper Cans.

DYE PADDERS

1—Butterworth 2 Roll Dye Padder, Brass and Rubber Roll, Motor Driven.

1—Butterworth 50" Dye Padder or Mangle, Top Roll Soft Rubber, Bottom Roll Hard Rubber, Rolls approximately 12" diameter, Copper Trough, Reeves Drive, A.C. Motor.

EXTRACTORS

2—60" Steam Driven Centrifugal Extractors, Perforated Copper Baskets, Quick Opening Cover, 800 R.P.M.

1—Kranz 42" Centrifugal Extractor, enclosed motor, perforated copper basket, quick opening safety Cover AC Motor drive.

TENTER FRAMES

1—Textile 40' Pin Tenter Frame, Link Belt Drive, #3 Reeves General Electric 5 HP, 60 Cycle, 3 Phase Motor, 60" wide, General Electric Guiders, Steam Heating Coils.

1—Winsor & Jerauld 40' Tenter Frame stainless steel clips. Reeves drive. A-C Motor.

1—Van Vlaaderen 50' goods, equipped with Marshall Williams Stainless steel clips. Reeves Variable speed transmission. All accessories.

1—50' Van Vlaanderen Tenter Frame, 50" wide, Enclosed Gears, Reeves Variable Speed Transmission.

BRUSHING MACHINE

1—Curtis and Marble 58" type 2-1 Brushing Machine equipped with 2 soft brushes 9" dia. and 1-2 h.p. Motor.

CAN DRYERS

1—6 Can Dryer, Copper Cans, 23" diameter, 50" face, complete with exception of motors.

1—10 Can Dryer, Copper Cans, 23" diameter, 50" face, complete with exception of motors.

1—Textile Can Drying and Rolling-up machine, Copper Can 36" diameter, 50" Face.

1—Textile Finishing Machinery Company set of 8 Copper Cans—2 Stacks, 4 Cans to a Stack, Vertical Stacks, 50" wide.

SPECIAL
DYE JIGGS

1—Rice, Barton & Fales Dye Jigg, 50" Roll, Wooden Tub, Metal-lined, complete with 2 Motors, 230 Volt, D. C.

3—Morrison 50" Stainless Steel-lined Dye Jiggs, Tilting Expanders, Rubber Beam Rolls, all accessories, including V-Belt Drive and A. C. Motor.

4—Textile Dye Jiggs, 54" Wooden Tub, 2 Rubber-covered Ball Bearing Top Rolls, 4 Stainless Steel Immersion Rolls, Bevel Gear Drive with 1 DeLaval Worm Reduction Gear Unit, direct connected to Lincoln 10 H.P. A. C. Motor, 550 volts, 60 cycle, 3 phase, 1200 RPM, with Control.

1—Textile Finishing Machinery Co. Copper can dryer consisting of 8 cans, 23" dia. 54" face with take-up, let-off. Reeves Variable speed transmission.

1—Textile Rolling-up and steam machine equipped with copper can 40" dia. 48" face.

1—Textile Finishing Machinery Co. 8 Can Dryer, consisting of Copper Tinned Cans, 23" diameter, 54" Face with Take-up, Let-off, Reeves Drive, A.C. Motor.

1—Van Vlaanderen 5-tier, 4 section Conveyor Dryer, with Rods, 60" face, Motor Driven Fans, Airfin Heating Units.

COTTAGE STEAMER

1—Robert Metcalf Cottage Steamer, 10' long x 8' wide.

DYE BECKS

1—Stainless steel lined 18" die beck Tank 18" x 30" x 96" Single Slot reel, Brass Idler rolls. Geared link chain drive.

QUETSCHES

1—General Machine Co. 50" 2 roll Quetsch equipped with brass rolls.

1—Van Vlaanderen 3 roll quetsch 60" face. Motor driven, chain drive by 1 h.p. General Electric AC Motor.

1—Van Vlaanderen 65", 2-roll Quetsch, Brass Rolls,, Reeves Drive, Ball Bearing.

1—General Machine Co. 2-roll Quetsch, 50" Brass Rolls, Bottom Roll approximately 9" diameter, Top Roll approximately 7" diameter, arranged for Motor Drive, no Motor.

KNITTING MACHINES

Wildman, Scott & Williams, Brinton, Supreme.

SPECIAL
ENGRAVING EQUIPMENT

7—John Hope 50" Pantograph machines, Double Bar, #1381-1387.

10—John Hope 48" Pantograph machines, Double Bar, #1388-1397.

1—John Hope 45" Pantograph machine, Double Bar, #1398.

SEWING MACHINES

Singer, Union Special, Merrow, Metropolitan and Willcox & Gibbs Flatlocks.

COUNTERS

34—Veeder-Root, Cloth Counters.

FOLDERS

1—Eastwood Gray Goods Folder, 60" wide.

3—E & H Flat Folders, 45" to 60" wide.

FINISHING CALENDERS

1—Butterworth 42" Hydraulic Schreiner 2 Bowl Calender, equipped with Cotton and Steel Engraved Rolls, Gas Heated Friction Unrolling and Batcher, Tension Rolls, complete with Accumulator and Pump, direct connected to General Electric 3 H.P. A.C. Motor, 50 Volts, 60 Cycle, 3 Phase, 900 RPM, Type M.T., with Drum Controller, Magnetic Switch and Grids.

GAS MIXING UNIT

1—Kemp Gas Mixing Unit with Gas burners.

KETTLES

7—Copper Steam Jacketed Mixing Kettles, equipped with Double Motion Bronze Agitators, 70 to 350 Gallons capacity.

METER

G. E. Steam flow meter.

DECATORS

1—Parks & Woolson 72" Semi-Decator, with Blanket, Nash Vacuum Pump and Motor.

DOUBLERS AND TUBERS

1—Parks & Wilson 54" Doubling and Reeling.

1—General Machine Co. 50" high speed tuber with Reeves drive.

SCUTCHERS

1—Textile 58" Roller bearing Scutcher.

1—Textile 58" Scutcher, Roller Bearing, Pulley Drive.

PRINTING MACHINES

1—Laboratory printing machine.

1—Werner Single Color printing machine 47" face.

2—R. B. & F. 42" Multicolor printing machine.

PRINT MACHINE MOTORS

5—Print Machine Motors, 23 to 35 H.P.

NAPPER

1—Woonsocket Napper, 36 Rolls, 80" Roller Bearing on Workers and Main Cylinder, with Pleater, Twin Cone Type Speed Control, new Bent Wire Clothing, excellent condition.

OPEN SOAPER & WASHER

1—Textile 66" Open Soaper and Washer, 6 sets of Nip Rollers, Wood Tubs, Brass Immersion Rollers, Reeves Drive, Pleater, A.C. Motor.

REMEMBER
Republic Textile
EQUIPMENT COMPANY
40 WORTH STREET NEW YORK CITY
Purchase and Sale of Used Machinery
REFINANCING • APPRAISALS • PURCHASE • SALE • LIQUIDATION OF MILL PROPERTIES

READY TO GO TO WORK—

DYEING & FINISHING

1—AGER 30' x 50" wide.
1—BATCHER 66½".
1—BUTTON BREAKER 4 roll 50".
4—BRUSHING Machines VERTICAL 54" to 62".
2—BRUSHING Machines HORIZONTAL 48" & 66".
1—McCreery 36" Single roll Wire BRUSH Unit.
1—CALENDER Friction 3 roll 42" Face.
4—CALENDERS 3 roll units 48" & 50" face.
1—CALENDER 3 roll Friction 56" face.
2—CALENDERS 4 roll 38" & 100" wide.
3—CALENDERS 5 roll 50" wide.
2—CALENDERS 6 roll 80" wide.
2—CALENDERS 36" Knit Goods.
3—CALENDERS Schreiner 40" & 70" wide.
1—CALENDER Hydraulic 80" wide, 7 rolls.
1—CALENDER Embossing 42" wide, 3 sets design rolls.
2—CHINCHILLA Machines 60" cloth.
1—DAMPENING Machine 63" wide on roll.
1—DECATUR Full 72" wide.
4—DOUBLERS 42" & 60" with clocks.
1—SET DRY CANS 41" x 23" (5 cans)
1—SET DRY CANS 45" x 23" (10 cans)
1—SET DRY CANS 75" x 30" (16 cans)
2—DRYERS, Loop 84".
2—DRYERS, Pin 65" & 80".
2—DRYERS, RAW Stock 500 & 800 lb.
1—DRYER, Skein conveyor type 100" wide.
1—DRYER, Skein truck type holds 2 trucks.
2—DRYERS, Tubular Knit Goods & 11 baskets.
4—DYEING Machines, PACKAGE 14 to 500 lb.
1—DYEING Machine Raw Stock 1200-lb.
2—DYEING Machines SKEIN 21, 28 and 39 arm units.
4—DYEING Machines Hussong 1000-lb each.
6—DYEING Machines, WARP Single & Multiple Bowl units
1—DYE TUB 6 string with reel.
8—EXTRACTORS 24" to 60".
2—EXTRACTORS 48" Raw Stock.
1—EXTRACTOR, Vacuum 72" pump & motor.
1—FOLDING & DOUBLING MACHINE cloth up to 90", making adjustable folds 18" to 40".
4—FOLDERS 40" to 60" widths.
2—FLAPPERS, Greige Goods 46" & 60".
3—FULLING MILLS, Double Compartment.
2—GRINDERS, NAPPERS 110" & 80" rolls.
1—INSPECTING RANGE 30' long used with rolling up machine.
1—JIGG, Benninger Automatic 44".
5—JIGGS 43" to 60" width.
2—KETTLES, Mixing 42x42 and 48x48.
1—KIER 8'x10'.
2—HUMIDIFIERS, Bahnson with motors.
4—MANGLES 2 & 3 roll 40" to 66".
1—MEASURING & ROLLING Up Machine 80" wide.
2—MERCERIZING Units Smith Drum 16 & 24 arm units.
1—NAPPER 72" Knit Goods, 20 rolls.
3—NAPPERS 80" & 90" Wollen Type 24 & 36 rolls, D.A.
2—NAPPERS 80" Cotton 20 rolls, D.A.
2—NAPPERS 66" Single Roll.
6—NAPPERS 80" & 90" 20 rolls, S.A.
1—PADDER 96" 2 rubber rolls like new.
3—PRINTING MACHINES 40" & 42" to 7 colors.
3—PRESSES, Rotary 66" to 84" Double Beds.
3—QUETCHES 44" to 60" wide.
2—INSPECTING Machines 44" goods.
2—POLISHING Machines Yarn 44".
2—SEWING Machines 60 ABB tables & motors.
7—SHEARS 36" to 84" Single & Double Blade Units.
3—SLASHERS 5' & 7' cylinders.
1—SLITTER, Cameron 42" like new.
2—SQUEEZE SETS 80" used on Slasher.
1—STEAMER or CLOTH CONDITIONER 68" wide.
1—SPOT PROOFING Machine 66" wide.
1—SUEDING MACHINE 62" with 5 B.B. rolls.
1—SCOURING Unit with DRYER 5-Bowl for RAW STOCK.
1—TENTER FRAME, Clamp 10' x 40" wide with Guider & Winder.
1—TENTER FRAME, Clamp 30' x 62" wide with B.B. Quetch, motor variable speed V-Belt drive.
1—TENTER FRAME, Clamp 30' x 58" wide.
1—TENTER FRAME, Clamp 90' x 50" wide.
2—TUBING & MEASURING Machines 40" wide.
2—BACKWASHERS, 2 Bowl Units.
1—OPEN WASHER 400 gal. tank equipped with Squeeze Rolls & Folder.
1—YARN SCOURING Unit 3-Bowl.

CARDING & SPINNING

1—D&F BREAST 80".
4—James Smith 2 Cylinder SHODDY CARDS 60x48.
1—Lombard 3 Cylinder WOOLEN CARD 48x60.
2—D&F 3 Cylinder WOOLEN CARDS 48x48.
1—D&F Single Cylinder WASTE CARD 48x48.
1—Furbush 2 cylinder WORSTED CARD 48x48.
2—D&F 2 cylinder WORSTED CARDS 60x48.
4—D&F 2 cylinder WORSTED CARDS 60x54.
7—C&K & T-W COMBS with circles.
2—TAPE CONDENSERS 72" Cards 4 bank units.
2—FEEDS, Bramwell weighing type used on 40" Cards.
5—FEEDS, Whitin-Scotch used on 60" Cards.

Liquidations—Appraisals

NORMAN M.
2568 PARK AVENUE

LARGE SELECTION OF REBUILT AND USED TEXTILE MACHINERY!

1—Hall & Stells 2 spindle BALL GILL BOX.
1—Prince Smith Double Can OPEN GILL BOX.
2—Prince Smith Single Head OPEN TOP FINISHERS.
2—Hall & Stells Single Head OPEN TOP FINISHERS.
1—Prince Smith 6 Spindle CONE GILL BOX.
1—D&F 48" Floor CARD GRINDER.
8—INTERMEDIATES 9x4½x7½ Gauge.
2—J&B MULES 240 Spindle Units.
2—J&B MULES 220 Spindle Units.
4—J&B MULES 300 Spindle Units.
1—OPENER 40x40.
1—S.L. #12 LATTICE OPENER.
1—Atlas #2 PICKER 24".
1—C&M MIXING PICKER 42" with Hopper Feed.
1—QUILLER 378 Spindle unit.
2—SHREDDERS 60"x30" Heavy Duty.
1—Prince Smith REDUCER 36 Spindle.
4—SLUBBERS 12x6x10¼" Gauge.
4—SPEEDERS 8x3½ each 144 spindles.
8—SPEEDERS 8x4 each 160 spindles.
4—SPINNING FRAMES, WORSTED, 43 mm Gauge.
1—SPINNING FRAME, WOOL 3½" Ring.
9—SPINNING FRAMES, COTTON 2" Ring.
40—SPINNING FRAMES, COTTON 1⅜" & 1¾" Ring.
8—SPOOLERS 40" & 48" Jackspools.
90—TWISTERS, Rayon Double Deck 3½ x 8" Bobbin.
6—TWISTERS 2½" Ring Tape Driven.
10—TWISTERS 1⅝" Ring Tape Driven.
1—TWISTER 2" Ring Tape Driven.
34—TWISTERS 2¼" Ring Tape Driven.
7—TWISTERS 2½" Ring Tape Driven.
2—TWISTERS 3½" Ring Tape Driven.
1—TYING-IN Machine 86" Carriage.
3—WARPERS, Pinless 82" to 108".
4—WINDERS, Lazenby 30 Spindle Units.
1—WINDER, Foster #101, 80 Spindle.
5—WINDERS, FOSTER #12 & 30, 100 spindle units.
1—WINDER, Bottle Type 48 Spindles.
6—WINDERS, Universal #80 Super Cone 14 spindles each.

WEAVING

16—Whitin BAG LOOMS 20" Between Swords.
16—Whitin BAG LOOMS 42" Between Swords.
60—Draper "E" 30" LOOMS, 2 harness.
24—Stafford LOOMS 40" Automatic shuttle changing, motor driven.
150—Draper "E" LOOMS 36", 5 harness.
100—Draper "D" LOOMS 40" with Dobbies.
22—Draper "D" LOOMS 64".
140—C&K 4x1 Automatic LOOMS 41½" Reed Space, motor driven.
40—C&K 2x1 Box LOOMS 41½" Reed Space.
50—C&K 4x1 Automatic LOOMS 52" with Dobbies.
24—C&K 4x1 Automatic Looms 82" between Swords, motor driven.
10—C&K 48" 4x4 Heavy Worsted Type.
3—C&K 82" 4x4 Heavy Worsted Type.
16—C&K 92" Automatic Cam LOOMS, 8 harness.
23—C&K 92" 4x4 LOOMS, 25 Harness, motor driven.
20—C&K 92" 4x1 Automatic LOOMS, 8 harness, motor driven.

KNITTING

10—Wildman 28 cut 20" cylinder 8 feed units.
1—Leighton plain rib 13" 9 cut 6 feed Crawford.
1—Leighton plain rib 16" 9 cut 6 feed Crawford.
1—Leighton plain rib 17" 9 cut 6 feed Crawford.
1—Leighton plain rib 19" 9 cut 6 feed Crawford.
1—Brinton 5 gauge 22" 16 feed.

1—Brinton 7 gauge 18" 16 feed.
121—Johnson and Stafford & Holt Knitting Machines used in making Stockinette sizes from 1" cylinder to 21" cylinder with 43 extra cylinders.
2—Brinton Open Head Machines 15" and 21" 6 and 8 feeds with 3 stripe attachments.
7—Stafford & Holt 18" to 21", 11 gauge 4' to 6'.
3—Cuff Machines 2⅛" 40 needles.

MISCELLANEOUS

1—BALING PRESS 4x3x6, motor driven.
50M—USED 8" MULE BOBBINS.
50M—USED 8¾" Automatic BOBBINS.
2—12"x48" Ring Doffers.
2—9"x48" Ring Doffers.
80—RINGS to fit 12"x60" Doffer.
1—CONDITIONER, Yarn.
48—DOBBIES, 20 Harness Double Index for 40" Looms.
16—JACQUARD HEADS 600 Hook.
36—LOOM BEAMS, Ratchet Gear for 92" Looms.
1—Westinghouse 20KW Lighting Generator.
2—CORLISS STEAM ENGINES approx. 250 Hp. each.
1—MONO-Rail System approx. 3600 ft. Louden #150 Rail.
1—Centrifugal Pump 2" Inlet.
1—Nash #2 Vacuum Pump.
1—Warren Fire Pump approx. 750 gals. per minute.

McDOWELL ASSOCIATES • • •

BRONX 51, NEW YORK (Near 138th Street) TEL: MElrose 5-1772

To See You Through to the End of the War

WE BUY... SELL
Procure, Equip and Design Textile Machines

"We are assured by the Army Service Forces that no let-up will occur in the military requirements . . . until after the War in the Pacific is over . . ." so said a leader of the Cotton Textile Institute, recently.

With the flare-up on the European front—renewed demands for all textiles are likely to continue indefinitely.

Right now, it will PAY to call upon TEXTILE AUXILIARIES. Here is a partial list of items in our warehouse stock—ready for immediate delivery.

SEWING MACHINES
1—Dinsmore Foot Power
2—R & L Rotary Power

MANDRILS W-BORE
21—45" Face
14—42½" Face
10—44" Face
15—Various width

OPEN WASHERS
3—Pair of Nip-Rolls, Rubber & Brass Rolls, Stands
4—Pair of Nip-Rolls, Rubber & Brass Rolls, Stands
2—9' Soapers with Partitioned Washbox

JIGS
2—44" Lined
2—76" S.S. Lined

COPPER CANS
7—7' Copper Cans, 56" Face
7—5' Copper Cans, 56" Face
3—23" x 50" Copper Cans
3—23" x 45" Copper Cans
2—23" x 42" Copper Cans

KETTLES
1—Copper Glue Kettle 18" x 17"
2—Iron Kettles—Gas Heated
1—65 Gal. Jacketed Copper—Stand
2—Copper Jack-Kettles 100 Gal. & 75 Gal. with Stand & Agitators

HYDRO-EXTRACTORS
1—42" Sludge Extractor—Iron Basket
3—36" Weston—1 copper—2 Iron Baskets
1—25" Brass Basket—Overhead Drive
1—24" Brass Basket—Bottom Drive
1—23" Copper Basket—Overhead Drive
1—26" Monel Basket—Bottom Drive
2—42" Rubber Basket—Motorized

PADDERS & MANGLES
1—62" 2-Roll Motorized-Reeves-Ball Bearings
1—67" 2-Roll Rubber Covered
2—46" 2-Roll Brass & Rubber
1—48" 2-Roll Brass & Rubber

TENTER FRAMES
1—90' Swing Tenter—W & J 50"
1—90' Straight—Hoye 50"
1—40' Straight—Textile 102"
1—40' Straight—Arlington—no chain suitable for coating

TENTER CHAINS
740—W & J Mercerizing Clips (Excellent)
970—W & J Mercerizing Clips
2280—W & J Brass Gates and Plates
1140—Butterworth #99
600—Spring Clips
New rivets for any type chain

CALENDARS
1—3 Roll Hydr. Hand Pump & Acc. 36"
1—50" 3 Roll Rayon Cal. B.B.
1—36" Textile Shreiner Hydr.
1—44" Perkins Shreiner Hydr.
1—44" Butterworth Shreiner Hydr.
1—44" Textile Shreiner Hydr.
1—54" Textile Embossing-Roller B
2—50" 5 Roll Butterworth-Roller B
1—66" Butterworth 5 Bowl

SCUTCHERS
1—44" Ball-Bearings
4—36" Ball-Bearings
1—40" Plain Bearings
1—37" Plain Bearings

BUTTON BREAKERS
1—48" Van Vlanderen 19 Rolls (Bakelite)
1—45" Van Vlanderen 19 Rolls (Steel)
1—50" Van Vlanderen 19 Rolls (Wood & Rubber)

COLLOID MILLS
1—#1 Eppenbach—D.C. Motor
1—#3 U. S. Colloid—A.C. Motor

MISCELLANEOUS
1—Kemp Automatic High Pressure Gas System
2—Stostrom Conditioning Systems
1—43" Inspecting Table & Brush C & M
1—Brass Squeeze Roll
8—Ceiling Fans with D.C. Motors
1—Chrome Covered Roll 20" x 17"
2—Buffalo Blowers with 3400 R.P.M.-D.C. Motors
2—Kier Heaters & Pumps
1—Schwartz Electric Guiders—D. C. Motors
2—36" Loop Driers—A. & G. Housings
1—1¾" Lawrence Pump with A.C. Motor
1—Nash Compressor
1—Nash Vacuum Pump
1—50" Gessner Apron Press
1—50 CBF Air Compressor with A.C. Motor
1—72" Inspecting Table
1—100" Batcher
1—Set of 112" Padder with 24—112" Dry Cans and 1—112" Batcher
1—40" Tuber
1—40" Double Doubler
1—4" Centrifugal Pump

ROLLS
Rubber Rolls
Brass Rolls
Copper Rolls
Husk Rolls
Cotton Rolls
Combination Rolls
Iron Rolls
} 500 to choose from

BLOWERS
PUMPS
MOTORS
Spinning and Weaving Machinery
"New Infra Red Heat Installations"

Textile Auxiliaries

OFFICE AND WAREHOUSE **1128 No. Main St., Providence, R. I.**

• Special •
CARDS

3—60" WIDE DOUBLE METAL CYLINDER WASTE AND SHODDY CARDS, ALL EQUIPPED WITH PRACTICALLY NEW CARD CLOTHING

2—GRINDING FRAMES, SPARE ROLLS, PARTS, ETC.

4—WASTE AND RAG PICKERS IN EXCELLENT SHAPE

ALL ABOVE MACHINERY NOW IN OPERATION

• 108 Draper 45" Reed Space Model E Looms, complete with Pick Counters and Warp Stop-motions.

30—4 x 4, 72" Crompton & Knowles Worcester looms, roller bearing shock absorber, motor driven, 1 HP, 3 Phase motors, oversized shuttle boxes, extended bottom shaft for Jacquards.

24—48" Crompton & Knowles Worcester 2 x 2 box looms, 20 harness dobbies and multipliers, individually motor driven, warp stop motions, pick counters, paperless beams.

28—Crompton & Knowles, 4 x 4, 82" reed space, 25 harness intermediate heads, large shuttle boxes, woolen looms, individually motor driven, complete with 1 HP, 3 Phase, 60 cycle, 220 volt motors.

32—Crompton & Knowles, 4 x 1, 52" Looms, roller bearing, shock absorber, high pickwheel, removable cloth rollers individually motor driven, warp stop motions and pick counters.

12 Atwood 5B twisting doubling machines, 3⅜" Edie rings, individually motor driven.

200 Universal #90 quillers or coppers, with or without bunch builders, belt driven or motor driven.

Sipp or Eastwood winders to wind from skein to spool.
Sipp or Eastwood warpers and creels.

Over 100 Jacquard Machines 624 hook coarse index
Over 60 Jacquard Machines 1304 hook fine index
Over 40 Jacquard Machines 2608 hook fine index
} ALL DOUBLE LIFT

Looms **Warpers** **Winders** |||| **Jacquard Machines** **Spinning and Throwing Machines** |||| **Dyeing Machines** **Textile Motors** **Shuttles - Quillers** |||| **Coppers** **Finishing Machine Harnesses**

CONTACT US FOR QUICK ACTION ON TEXTILE EQUIPMENT

PATERSON
SILK MACHINERY EXCHANGE

24 SPRUCE STREET ***SHERWOOD 2-1363-4 5*** **PATERSON, N. J.**

McKITTRICK can help you answer the $64 question

A census of mill men showed that 64% rated their big problem as

replacing worn out or obsolete machines and equipment

• GOOD USED EQUIPMENT WILL SPEED REPLACEMENTS •

Here's part of large stock we own and offer

CARD FEEDS

3—Bramwell 60" Woolen
1—Bramwell 48" Worsted
1—J. Smith 60" for Garnet

CARDS—WOOLEN

1—D&F 4 cyl. 60" w x 54" dia. all iron. Complete with Bramwell feed. Garnet breast. Apperly feed and ring doffers.
1—D&F iron breaker cylinder only 60" w x 54" dia. mounted on short frame and complete with arches, 5 workers 9" dia., 5" dia. strippers, 12"-fancy, 36"-doffer. Open bearings and belt drive.
1—D&F iron breaker cylinder only 60" w x 54" dia. mounted same as above except it has only 4 workers and strippers.
1—D&F bare iron cylinder only 60 x 60
1—Lot of 60" wide rolls by various diameters
1—Lot of 48" wide rolls by various diameters
1—Lot of 72" wide rolls by various diameters
Lots of ring doffer rolls, rub condensers and woolen card parts in stock

WOOLEN MULES

2—J&B 240 spindle x 1¾" ga. heavy spindles for 9" automatic loom bobbins.

GILL BOXES

1—H&S double can ½" p.
3—T&W single head, double baller — fine pitch.
2500—Spare fallers—all sizes. Send exact specifications or sample with inquiry.

TWISTING

3—H&S 192 spindle x 3½" pitch dolly roll type cap trap
1—Collins Bros. 160 spindle x 3½" p x 2¼" ring fancy twister for woolen.

TWISTING (Continued)

8—H&S 168 spindle x 4" p. dolly roll type cap trap
2—Collins 200 spindle x 3¾" ga. x 2 5/16" ring x 6" traverse

FOSTER WINDERS

3—Foster 80 spindle Model 30 Howland taper cone winders 6" tr. Belt drive
1—Foster 60 spindle Model 12. Tube or cone winder 6" tr. Belt drive.

YARN STEAMER

1—C. G. Sargent yarn conditioner. Ex.
1—Steamer for steaming yarn in baskets or truck

LOOMS

4—C&K 92" 4 x 1 box automatic. Motor drive. Large Shuttle. 25 harness
6—C&K 72" 4 x 4 box plain looms. Motor drive. 20 harness
2—Knowles 82" 4 x 4 box plain looms. Motor drive. 25 harness
Several lots of 8" automatic loom bobbins
75—C&K 82" x 6½" dia. bbl. loom beams
60—C&K 87" x 6½" dia. bbl. looms beams
Several other lengths of beams in stock also
Harness and box chain. Loom reeds
Pick gears. Pick clocks. Jacks, etc. in stock

CLOTH FINISHING

2—Gessner 66" Rotary Cloth Presses. Jumbo type
1—D&F 80" x 14 roll S.A. Napper. Belt drive
2—P&W 66½" Mdl. A. Dble shears
1—P&W 42½" Mdl. A. Dble shear
1—C&M 63½" sgl. shear with spare revolver and ledger blade
1—C&M 60" single cutter velvet shear. Low pattern

CLOTH FINISHING (Continued)

2—P&W AWC type measuring machines
1—Windle 66½" Dbling and Winding. No measuring.
1—Voelker 64" Dewing machine
1—Gessner 72" full decater complete with vac. pump, carriage and winder. Ex.
1—Fairbanks Single beam counter platform type cloth scale for finisher room. Rebuilt

MISCELLANEOUS

2—Simplex Hand Wound time clocks. Ex.
2—Portable Watchmen's Clocks with Keys and Stations.
1—P&S ceiling condenser. Excellent
36—Fibre cans 12 x 9 x 30" deep inside. Hand holes
140—Fibre cans 6" dia. 32½" seamless. Ex.
550—Fibre cans 7 x 32½" seamless. Ex.
1—Sargent 84" feed for raw stock dryer
1—C&M 40" Fearnaught Picker with Bramwell Feed

EXTRACTORS

1—Tolhurst 48" Belt drive. Copper basket
1—Hercules 48" motor driven 550v-60c-3ph.
1—King & Gerber 60" motor driven 550v-60c-3ph.

STOCKINGS FOR FRANKLIN SPRINGS

62,500—Cotton stockings for Franklin springs

RAW STOCK DRYER

1—C. G. Sargent special with 24" and 72" aprons. Latest type. Built new in July 1944. Small size. All motor driven. Can be changed to a standard single apron dryer with 96" apron. This machine is JUST LIKE NEW.

This is only a partial list of the machinery and equipment we own and offer for sale. Send us your inquiries, also send listings of material for sale.

APPRAISALS – LIQUIDATIONS

Est. 1922 **FRANK G. W. McKITTRICK CO.** *Inc. 1935*

USED WOOLEN AND WORSTED MACHINERY

60 FLETCHER ST. Phone Lowell 6391 LOWELL, MASS.

For MACHINES—IT'S CADGENE!

It's the EXTRA Service that Counts

Cadgene Service is COMPLETE in every detail that will insure your not only getting the type of textile machinery or equipment you need, but also prompt delivery and, after that, SATISFACTORY PRODUCTIVE SERVICE from your purchases. To insure this, we can furnish dependable equipment in perfect operating condition. The many years of textile-field experience behind CADGENE guarantees that you will get the best possible value for your investment.

AGITATORS, Port. High Speed

BEAMER, 60" Van Vlaanderen

BUTTON BREAKER, Morrison 50"

CALENDER, 3 roll Cavagnaro 52"

CALENDER, 3 roll, K6G 60"

CALENDER, 3 roll, Finishing 45"

CALENDER, 4 bowl, 2 paper, 2 steel steam heated rolls arranged for lever pressure

CALENDER, 3 roll, VV 55" Friction

DRY CANS, set of 14, tinned copper 68" face x 23" dia. Horizontal

DRY CANS, set of 13 Copper, 90" face x 23" dia. bucket type

DRY CANS, set of 12 Copper, 12' x 23" bucket type

DRY CANS, set of 12, Copper 50" face x 28" dia. vertical arrangement

DRYERS, Net Conveyor, 56" & 60" wide

DRYERS, LOOP, P & S 30'

DRYER, Miller 20th Century

DYE TUBS, Copper skein, various lengths

BEAM EXTRACTORS, 50" V.V.

EXTRACTOR, 60" Van Vlaanderen, rubber basket, with loading device

EXTRACTOR, 48" Hercules, tinned copper basket, open top

EXTRACTOR, 42" Van Vlaanderen, rubber lined basket, self-balancing

FLOCK STENCIL MACHINE, with Patterns

2—FLAT FOLDERS, Elliott & Hall

INFRA RED units complete with blowers

INSPECTION TABLES, with DC motors 47"

JIGGS, Cast iron, 50"-60"

JIGGS, Monel lined, 60"

KETTLE, copper tilting, Jacketed 29" dia. x 34" deep

PALMER QUETCH, 54" Butterworth

PALMERETTE, 60" face General Machine

PRINT MACHINE, 3 color, 60"

1—#3 NASH PUMP, Bronze casing

We have a large stock of re-built and guaranteed motors

QUETCH, 3 roll Van Vlaanderen 50"

QUETCH, 2 roll, 62" lever pressure

QUETCH, 3 roll 60" Morrison

2—REEVES DRIVES, 000 Horizontal totally enclosed

REELING & DOUBLING Machines, VV

RIBBON FIN. UNIT, complete, quetch, cans, calender, motor

RIBBON PRINTING MACHINE, Complete, 10 color

SHEAR, Herman, 4 knife, 70" wide

TANK, rubber lined & covered

TENTER FRAME, W & J 50'x50" wide

TENTER FRAME, VV, 50'x60" wide

TENTER FRAME, W & J 30'x50" wide

TENTER, Butterworth 1933 Return

TUBER, PATERSON, Variable speed motor

WARPING MILLS, 3 yards x 180" face complete with dial.

WASHER, VV 3 compartment

WATER SOFTENER & FILTERS

WINDERS, Benj. Eastwood, hard silk, complete with swifts.

To help you BUY—OR SELL—Complete Plants or Individual Machines

CADGENE MACHINERY CO.,

5th Ave. & McLean Blvd.

P. O. Box 1206 Paterson, N. J.

SHERWOOD 2-6577

MACHINERY FOR SALE

CARD. and SPIN.

FEEDS
Card, 60" Bramwell

FLOCK CUTTER
Curtis & Marble

DUSTERS
GRINDERS
Card & Napper, various sizes

PICKERS
Gerry, 20" opener
F. Franke & Co., 28" opening
Spencer Auto Oiler, 48"

SPINNING TWISTERS
132 Sp Prince Smith, 4" ring

BRUSHES
P&W 60" with Steamer, 2 cyl.

CALENDER
CONDITIONING
Sargent Filling Yarn Cond.

DOUBLING & FOLDING
Windle
P & W, 66"

DRYERS
14 Can, upright 144" wide

WINDING

QUILLERS
Whittin, 378 spindles, 2 & 2½" ga.

SPOOLERS
Worcester Comp. 6 Drum, 48 ends

WARPERS
Pin & Pinless, any size

WINDERS
#50 Universal, rebuilt to your order
#90 Universal, rebuilt to your order
#80 Universal Coners
#180 Universal, 8x8 Super Coners
#12 & #30 Foster Winders

WEAVING

BUTTS
CARD CUTTER
O. Lever

HARNESS FRAMES
80"

LOOMS
82" C&K 4x4 box, 25 Harn.
92" C&K 4x4 box, 25 Harn.
82" C&K Automatic

SPOOLS
4 x 6, wood
4½ x 6", wood
2⅞ x 3⅜", sipp

DYEING & FINISHING

DYERS
Stainless Steel, Piece Dye, 72" wide

EXTRACTORS
60" Hercules, motor drive
A.T. & M. Co. 36" underneath belt drive
A.T. & M. Co. 42" underneath belt drive
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1—Saco-Lowell Cage Section, ball bearing.
2—95" Sargent Automatic Feeders, belt driven.
2—Kitson Breaker Pickers 40", belt driven.
6—Kitson Finisher Pickers, 40", belt driven.
4—H & B American Finisher Picker 40", belt driven.
3—Saco-Pettee 12x6 Slubbers, 72 spindles each, ball bearing, top rolls, belt driven.
3—Saco-Pettee 10x5 Intermediates, 96 spindles, ball bearing top rolls, belt driven.
3—Whitin 9x4½ Intermediates, 96 spindles each, self balanced carriage, belt driven.
3—H & B 9x4½ Intermediates, 108 spindles each, belt driven.
2—Whitin 8x4 Speeders, 160 spindles each, belt driven.
4—Woonsocket 8x3½ Speeders, chain drive, 160 spindles each, ball bearing top rolls.
19—Saco-Lowell 7x3½ Speeders, 144 spindles each, 1923 model.
23—Saco-Pettee 7x3½ Speeders, 160 spindles each, belt driven.
12—Saco-Pettee 7x3½ Speeders, 176 spindles each, belt driven.
8—Woonsocket 7x3½ Speeders, 168 spindles each, belt driven.
6—Woonsocket 7x3 Speeders, chain drive, 184 spindles each, ball bearing top rolls, belt driven.
38—Saco-Pettee 6x3 Jack Frames, 200 spindles each, ball bearing top rolls, belt driven.
6—Whitin Model "B" 6x3 Jack Frames, 200 spindles each, shell front rolls, belt driven.

Combers

72—Whitin Combers, 8 deliveries.
14—Whitin Sliver Lap Machines, 20 ends.
14—Whitin Ribbon Lap Machines, 4 deliveries.

Spinning

30—Whitin 3" gauge, band drive, 216 spindles each, 1⅛" #1 Flange ring.
14—Whitin-Pease Model Wool Ring Spinning Frames, 3½" gauge, 1¾" rings, 180 spindles each, belt driven.

Twisters

4—Whitin WET Twisters, 6" gauge, 4½" ring, 132 spindles each, steel creels, knee brakes, band drive, belt driven.
10—Whitin WET Twisters, 3" gauge, 1¾" ring, 256 spindles each, steel creels, band drive, belt driven.
1—Whitin WET Twister, 3¼" gauge, 2" ring, 240 spindles, steel creels, band drive, belt driven.

Spooling, Warping and Winding

5—Easton & Burnham Spoolers, band drive, 4¾" gauge, 180 spindles each.
12—Draper Spoolers, 4½" and 5¼" gauge, 100 and 140 spindles, with Foster tensions, yarnometers.
25—Draper and Entwistle 54" Beam Warpers with Creels.
2—Foster #12 Winders, 100 spindles each, ½ cone, ½ tube, motor driven.
8—Foster Cone Winders, 9½" gauge, changed to semi-high speed, 100 spindles each, belt driven.
2—Foster #12 Winders, 100 spindles each, ½ cone, ½ tube, belt driven.
3—Foster #12 Winders, 80 spindles each 1½ cones, 1½ tubes, belt driven.
2—Foster #30 Winders, 100 spindles each, cone wind, belt driven.
1—Foster #25 Winder, 80 spindles for tubes, belt driven.
15—Universal #90 Quillers, bunch builders, overhead washboard tensions, motor driven.
8—Universal #90 Winders, bunch builders, underneath wind, motor driven.
20—Universal #50 Cone Winders for Rayon, motor driven.
84—Universal #50 Tube Winders, 6 spindles each, belt driven.
55—Lowell Cameless Winders, 16 spindles each, belt driven.
1—Whitin Long Chain Quiller, 128 spindles, 4¼", 4½" gauge, belt driven.

Looms

124—Draper Modified "D" Worsted Looms, 79½" reed space, Lacey tops, belt driven.
83—Draper 40" Model "K" Looms, 25 harness, C & K dobbies, 45½" reed space, belt driven.
76—Draper 40" Model "E" Looms, Lacey tops, 45½" reed space, belt driven.
30—Draper Model "K" Looms, 45" reed space, Lacey tops, belt driven.
61—C & K 4x1 Automatic Bobbin Changing Looms, 43" between swords, 20 harness C & K dobbies, belt driven.
6—Draper Model "L" Automatic Looms, 88" reed space, motor driven.
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12—C & K 2x2 Box Plush Looms, 72" reed space, 14 harness gem heads, motor driven.
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Finishing

2—3-Ton Allen Kiers.
30—Copper Can Dryer, 23" diameter x 42" face, vertical stacks.
29—Copper Can Dryer, 23" diameter x 42" face, vertical stacks.
2—Rodney Hunt Rope Soapers, rubber rolls.
4—40" Dye Jiggs, cast iron tubs, rubber top rolls.
2—42" Face Padders, rubber rolls, screw and lever set.
1—90' Lincoln Tenter Frame, opens to 46", Winsor and Jerauld side opening clips, brass faced.
1—Butterworth 50" 5-roll Chasing Calender.
1—48" Granger 3-roll Friction Calender
1—Kemp Industrial Gas Unit with Spencer Turbo Compressor.
3—Parks & Woolson 54" and 47" Cloth Doubling and Boarding Machines.
1—48" 3-roll Water Mangle.
1—Textile 50" Ager, 24' long.
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1—1 Color Rice, Barton & Fales Printing Machine, 44" face.
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1—5 Color Rice, Barton & Fales Printing Machine, 42" face.
1—6 Color Rice, Barton & Fales Printing Machine, 42" face.
6—7 Color Rice, Barton & Fales Printing Machines, 42" and 40" face.
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5—Hall & Stell 164 spindle Cap Trap Dolly Roll Twister 3½" pitch.

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2—Prince Smith Universal Ring Trap Twisters, 188 spindles, 4" pitch, 6" traverse.

1—Laxenby 30" But Winder with automatic bunch builder.

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3—Worcester Warp Compressors, 6 drum, 40 ends 22⅝" scroll roll.

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1—Entwistle Ball Warper, 650 ends with 2—10 Jackspool Creels.

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2—Large Size Boxes, Double Roll, 81" long, 28½" wide, 10" deep, equipped with 7" rolls.
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Inside of box 81"
Depth 9½"
Bottom rolls 7"
Squeeze rolls 6"
Width inside 28"
Double Rolls
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4—120 spindle Barber Coleman Spoolers
13—Frames of 2¾" gauge tape drive H & B spinning with 4 roll H & B long draft, 300 spindles each, tape drive.

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1—Sturtevant Blower, Size 5, Des. 3.
2—Sturtevant Blowers, 1 #30, 1 #29.
1—C. & M. 72" Cloth Cradle.
1—Woonsocket Napper, DA, 88", 24 roll Picker Aprons, Lattice and Spiked Loom Beam Heads, 18" geared, 6" bbl Kirschner 3 blade Beaters, 14". Traverse and Drum Grinders, for Cotton.
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1—Davis & Furber single cylinder shoddy card, 48x60, with Harwood Bramwell feed, 30" diameter, garnett breast, 8 workers, 7" diameter, belt drive, 30" doffer, left hand drive, filet clothing.

COMBING

12—Whitin D3 combers, eight head, with two Whitin sliver lap machines, 24 end, and two Whitin ribbon lap machines, 4 head

DRAWING

50—Deliveries H & B drawing, five delivery heads, 1⅛" front roll

ROVING

2—Woonsocket 12x6 slubbers, 68 spdls. each
4—Saco-Lowell 10x5 slubbers, 1931, 9" gauge, 68 spdls. ea.
2—Woonsocket 10x5 intermediates, 84 spdls. ea., no creel
12—Woonsocket speeders, 8x3½, 128 spdls. ea., casablanca long draft in 1934
1—Saco-Lowell 7x3½ Slubber, Whitin controlled draft, 5¼" ga., left hand, 160 spdls.
1—Saco-Lowell 7x3½ slubber, Whitin super draft, 5¼" ga., right hand, 160 spdls.

TWISTING

11—Band driven Whitin twisters, 4—224 spdls. ea., 7—216 spdls. ea., 2" ring, 3¼" ga., 7" traverse, 15" pulleys, 7" cyl., 1—5/16" whorl.

2—Fales & Jencks twisters, 240 spdls. ea., 2¼" ring, 3¼" ga., tape drive, motor driven by two 10 HP motors, spool creel, dry twist, originally for wet twisting, but troughs removed. Brass rolls remain.

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4—Draper 54" warpers, V creels

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WEAVING

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153—Draper 40" Model E looms, motor drive, ¾ HP, 440 volt, Midget feelers, Stafford cutters, four bank sliding bar stop motion, 2 shift pick counters, 8" bobbins, 23 with Lacey tops, 136 with Dwight tops, all auxiliary cam shafts

154—C & K 4x1 20 harness dobby looms, 41½" reed space, motor drive, 220/60/3, single index, four bank stop motion.

43—C & K 2x1 box looms, 41½" reed space, motor drive, 220/60/3, two bank stop motion, roll and top shaft

90—C & K 4x1 box looms, 41½" reed space, motor drive, 220/60/3, two bank Reagan stop motion.

24—C & K 4x1 automatic box looms, 79½" reed space, 82" between swords, two bank warp stop motion, ratchet take-up, friction let-off, roll and top shaft motion, auxiliary motor drive, ¾ HP, 550/60/3

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6—80 sp. Payne Bottle Bobbin Winders
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12—62" C&K Auto Looms 4x1 Box
14—92" Looms 4x4 box motor drive C&K
30—92" C&K Auto Looms 4x1 Box
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4—144 sp. S.L. Fine frames 8x3½
1—160 sp. Draper Spooler 6½" spool
1—84" & 2—66" Cotton Shears
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50—H&B 224 sp. Spinning Frames 1¾" ring
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FOR SALE

60—C&K (1926) 2XI Box Looms 51" to 60" wide
150—Rebuilt Bahnson Humidifier Heads 3 Master "B" Controls
400—Veeder-Root Late type Resettable Day & Night Pick Counters
1000—C&K 18" Threaded Flanges
1—Double Reed Cleaning Machine
50—Textile Loom Motors
20M—Large Fibre Head Spools
Excellent stock of Weaving Equipment such as Heddles, Drop Wires, Warp Stop Motions—Beams—Loom Parts, Reeds, Bobbins and Spools.

PAWTUCKET MILL SUPPLY CO.
41 River St., Pawtucket, R. I.

MILLER MACHINERY CO.
Used Textile Machinery and Supplies
FACTORY APPRAISALS
PLANTS BOUGHT AND SOLD
396 Straight St., Paterson, N. J.
Tels. SHerwood 2-5467-8 P.O. Box 2405

FOR SALE
BUTTERWORTH CALENDER
7 ROLLS—80" FACE
3 Composition Rolls, 4 Steel Rolls, Hydraulic lift —water-cooled journals. Located in South
AMES BAG CO.
10 EAST 40TH ST. NEW YORK CITY

FOR SALE

15,000 Universal Winding Cork-Covered Cones. Could ship immediately.
Price $200.00 per M
Samples on request.
FS-143, Textile World
330 West 42nd St., New York 18, N. Y.

(Continued from page 272)

OFFICIAL PROPOSALS

Bids: March 20 (344)

Building Reinforcing and Office Renovating Merrimack Manufacturing Company Huntsville, Alabama

Sealed proposals will be received and privately opened in the office of J. E. Sirrine & Company, Greenville, South Carolina, at 10:00 a.m., Eastern War Time, on Tuesday, March 20, 1945, for: 1) *General Reinforcing of Mill No. 2*, consisting of building 31 reinforced-concrete buttresses and stiffening existing wooden floor beams by bolting to them approximately 160 tons of structural-steel channels; and 2) *Office Renovating*, consisting of general revamping of the existing building.

Bids shall be enclosed in a sealed envelope addressed to J. E. Sirrine & Company, Greenville, South Carolina, and shall be plainly marked on the outside of the envelope: "Proposal for Building Reinforcing and Office Changes, Merrimack Manufacturing Company."

Plans and specifications are open to public inspection at the office of the Engineers, J. E. Sirrine & Company, or they may be obtained from the Engineers upon deposit of $15.00 for the Building Reinforcing plans and $10.00 for the Office Renovating plans. If all documents are returned in good condition within fifteen days after date set for opening of bids, the full amount of the deposit will be refunded to each General Contractor who submits a bona fide bid. If the documents are not returned within the stipulated time, or if the General Contractor does not submit a bona fide bid, the deposit will not be refunded.

It is estimated that the total cost of the work will be approximately $90,000.00.

The Owners reserve the right to accept any bid or reject any or all bids and to waive all technicalities in the receiving of proposals.

J. E. SIRRINE & COMPANY.

(Continued on page 292)

FOR SALE
SARGENT RAW STOCK DRYER
REBUILT WITH NEW APRON
4 FANS, 32' HOUSING
STANDARD MILL SUPPLY CO.
1064-1090 Main Street, Pawtucket, R. I.
Phones Perry 1037-38-39
New York Office
1022 EMPIRE STATE BUILDING
New York City 1 Phone—Bryant 9-9270-71
Southern Standard Mill Supply Co.
512-514 WEST FOURTH STREET
Charlotte, N. C. Phone—3-8841

TEXTILE MACHINERY
DOMESTIC AND FOREIGN
Liquidations • Appraisals • Mill Properties
TEXTILE MACHINERY
JOHN MARSHALL
315 Granite Block, P. O. Box 815
Telephones: 6-8217 • 6-8218
FALL RIVER • MASS.

N E W
TOMPKINS TABLES AND EQUIPMENT
SCOTT & WILLIAMS & WILDMAN RIBBERS
WILDMAN SPRING NEEDLE MACHINES
TUBULAR CLOTH FINISHING MACHINES
LIQUIDATIONS — EXPORTS
U S E D
JOSEPH PERNICK CO. INC.
Textile Machinery
54-19 Flushing Ave. Ev. 7 6816-7 Maspeth, N. Y.

JAMES E. FITZGERALD
Textile Machinery
PREPARATORY FINISHING
DOMESTIC EXPORT
AUCTION SALE REPRESENTATION
LIQUIDATIONS
10 Purchase St. Fall River, Mass.
Telephone 8-5616

FOR SALE

1—Duesberg-Bosson (Belgian) 40" Mixing Picker ....$1,500.00 U. S.
1—Sargent Duplex 36" Burr Picker, $1,500.00 U. S.
2—60" Apperly Feeds...$150.00 U. S.
1—48" Apperly Feed....$150.00 U. S.
1—Proctor & Schwartz Raw Stock Dryer, 29 feet long x 13 feet wide x 5½ feet high, cap. 200 lb. hour $1,500.00 U. S.
All above in good order, offered subject being unsold, F.O.B. mill floor, crating extra, terms cash.
FS-187, Textile World
330 W. 42nd St., New York 18, N. Y.

FOR SALE
100 Arm Buhlmann Skein Dyeing Machine
9—10 Arm Sections
2— 5 Arm Sections
Equipped with U. S. Vari Speed Drive, Piston Pump, Accumulator and Centrifugal Pump.
TANKS
Copper and Copper Lined Wooden Tanks.
Price Very Reasonable
MAWACO MACHINE CO.
56 Bogart Street Brooklyn, N. Y.

WANTED

Product Development Man

Nationally known manufacturer of cotton textiles wants to employ man who is a graduate of a recognized textile or engineering school and who preferably has had both mill and sales experience to do product development work with synthetics.

The job will involve the coordination of design, weaving and finishing of new fabrics and the introduction of these to various trades for purposes of getting trade reaction. Man need not be a skilled designer, weaver or finisher, but he must be able to coordinate the efforts of each of these factors, must possess a great amount of initiative and have good personality.

If interested, please write and give full information on education and experience qualifications, present salary and any other significant information. Salary open.

P-179, Textile World
330 West 42nd St., New York 18, N. Y.

SEARCHLIGHT SECTION

(Classified Advertising)

Employment and Business "OPPORTUNITIES" Equipment, Used or Resale

UNDISPLAYED RATE

10 CENTS A WORD. MINIMUM CHARGE $2.00.

Positions Wanted (full or part time, salaried employment only), ½ above rates, payable in advance.

Box Numbers—Care of publication New York, Chicago or San Francisco offices count as 10 words. Replies forwarded without charge.

Discount of 10% if full payment is made in advance for 4 consecutive insertions.

DISPLAYED RATE

Individual Spaces with border rules for prominent display.

The advertising rate $5.75 per inch. Contract rates on request.

An advertising inch is measured ⅞" vertically on one column, 3 columns—30 inches—to a page.

Copy for new advertisements received until the 5th of the month for the issue out the same month subject to space limitations.

(Continued from page 291)

SALESMAN WANTED

WANTED TECHNICAL salesman. Midwestern manufacturer has developed a new textile product that requires application studies and aggressive sales promotion. The product embodies distinct advantages over established products. Requires textile mill experience, preferably in sipnning, and weaving or knitting. Give age, education, and experience in first letter. SW-193, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

SALESMEN AVAILABLE

WANTED: Connection in Mexico or South America by man with 15 years textile experience in laboratory, plant and technical sales work. Draft exempt. SA-176, Textile World, 330 W. 42nd St., New York 18, N. Y.

SALESMAN Sales executive with 20 years of successful selling experience wishes connection with firm manufacturing A-1 product which has special application to the throwing industry. Available March 15th. SA-201, Textile World, 330 W. 42nd St., New York 18, N. Y.

REPRESENTATIVES AVAILABLE

EGYPTIAN OPENING, cotton, rayon, woolen and worsted piece goods manufacturers interested in post-war trade with Egypt and Middle East are invited to communicate with Mr. Jack Rosenfeld, P. O. Box 1470, Cairo established in 1919 and member of the British Chamber of Commerce, Cairo, and the Anglo Egyptian Chamber of Commerce, London. The firm covers the market efficiently in varied merchandise.

MANUFACTURERS REPRESENTATIVE, well and favorably known, in business Los Angeles continuously twenty years, desires additional lines, commission basis. The Deming Company, 817 Yale St., Los Angeles 12.

PROFESSIONAL SERVICES

LANCASTER, ALLWINE & ROMMEL

Interesting booklet concerning Inventions, Patents, Trade-Marks and Copyrights, together with Schedule of Government and Attorney's Fees, sent without obligation. Simply ask for "booklet and schedule."

Established 1915

Patents & Trade-Marks

Suite 448, 815—15th St., N.W., Washington 5, D. C.

WANTED

Experienced Draftsman, preferably one familiar with Textile Machinery, good working conditions and permanent job. If interested please write giving details of experience, when could be available and salary expected.

P-189, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

PRODUCTION MANAGER BRAIDED RUG MILL

Large eastern cotton rug manufacturer has opening in organization for production manager in braided rug division; excellent future for right man who must be conversant with all phases of business including raw materials, labor training, styling. State full details experience, age, compensation desired, etc. All replies will be held strictly confidential.

P-994, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

Knitting Room Foreman

Splendid opportunity for foreman of knitting department in one of the most progressive knitting companies in central New York state. Manufacturing underwear. All correspondence strictly confidential.

P-181, Textile World
330 W. 42nd St., New York 18, N. Y.

Woolen Mill Wanted

Woolen Manufacturer with Expert Styling And Own Distributing Organization Will Purchase Part (Or Full) Interest in Woolen Mill. Present Management To Continue Operating, Preferably Retaining A Financial Interest. Investment May Include Expansion Or Modernization As Required. Write to

BO-204, Textile World
330 West 42nd St., New York 18, N. Y.

Over Forty-five Years of Dependable and Confidential EMPLOYMENT SERVICE

for textile mills, converters and selling houses requiring managers, superintendents, stylers, designers, salesmen, overseers, second hands, fixers, etc. 'Phone, wire or write us your personnel requirements.

CHARLES P. RAYMOND SERVICE, Inc.

Phone: Liberty 6547 — 294 WASHINGTON STREET, BOSTON 8, MASS.

WANTED

ENGINEERS

MACHINE DEVELOPMENT

Graduate engineer or equivalent, experienced in the design and development of special and experimental machines. Men with creative ability required, experienced in such lines as automatic, semi-automatic, or ordnance equipment.

Must be thoroughly acquainted with modern methods and shop practices and capable of developing new ideas in conjunction with modern mechanical laboratory facilities.

State age, marital status, details of education, experience, draft status, present salary and salary expected. Enclose recent photograph or snapshot.

Post-war opportunity.

Applicants must be able to obtain Statement of Availability.

E. I. du Pont de Nemours & Company, Inc., Personnel Division. Wilmington 98, Delaware.

An Opportunity to Buy

A COMPLETE PACKAGE DYEING PLANT

(Franklin System)

NOW IN SUCCESSFUL OPERATION

THIS Plant is all set up and can be inspected in actual operation.

IT comprises stainless steel dyeing machinery, winding equipment, and a modern laboratory. Capacity 20,000 pounds per week.

THE equipment of this plant can readily be removed from its present location.

CORRESPONDENCE is solicited with principals financially prepared for prompt action.

BO-184, Textile World
330 West 42nd St., New York 18, N. Y.

DYE & FINISHING PLANT WANTED

Equipped for Cottons, Rayons, Velvets, Etc. Will purchase or invest. State details. Principals only. Confidential.

BO-183, Textile World
330 West 42nd St., New York 18, N. Y.

YARNS WANTED

COTTON
WOOL
RAYON
BLENDS

Any put up, size, colored or natural, small or large lots
WE NEED THE YARNS FOR OUR OWN MANUFACTURING

Also Knitted Piece Goods of All Kinds Wanted

PRIME CONVERTERS, INC.

9 E. 16 St. New York 3, N. Y.

Agents and Brokers please contact

WOOLEN MILL
WANTED

Will buy, lease or invest in good mill with good equipment.

BO-180, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED

WORSTED PLANT

With spinning, combing, carding and weaving equipment.

W-186, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED

MOSCROP

AUTOMATIC YARN TESTER

Research Division
Chicopee Mfg. Corp.
Chicopee Falls, Mass.

WANTED

3—2 spindle Gill Boxes, 14x9 bobbin
8—50 spindle Lindsay-Hyde Yarn Reels
2—Prince Smith Universal Ring Trap Twisters, large package
Worsted Drawing and Roving Equipment. Please send list.

JOHN CLISHAM
TEXTILE MACHINERY
Castor & Devereaux Avenue
Philadelphia 24, Pa.

Balling Machines Wanted

WRITE

W-190, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED

Piece Carbonizing Unit

Good Operating Condition. Also: Auxiliary Equipment. Write to

W-203, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED

Vigoreaux or Melange set of machinery for Dye House.

MERRIMAC MILLS
Methuen, Mass.

WANTED

CURTIS & MARBLE

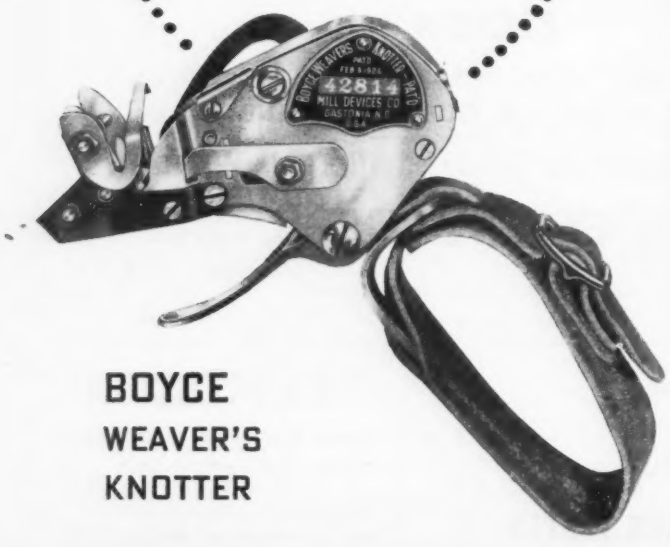
KNIT GOODS NAPPER

W-988, Textile World
330 W. 42nd St., New York 18, N. Y.

Preventative Maintenance

In the Army Air Force Gunnery Schools today they teach a course in "preventative maintenance"—a study of how to prevent breakdowns and failures in equipment—which in turn lessen ground crew maintenance problems.

The Boyce Weaver's Knotter Maintenance Service is designed as a preventative measure to constant production. Users of Boyce Knotters have no maintenance problems—if they use our rental and parts replacement service.



BOYCE
WEAVER'S
KNOTTER

MILL DEVICES COMPANY
DIVISION OF
A. B. CARTER, INC.
GASTONIA, N. C.

SALES REPRESENTATIVES

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Eastern (Including Canada) C. E. HERRICK, 44 FRANKLIN STREET, PROVIDENCE, RHODE ISLAND
European: MELLOR, BROMLEY & CO., LTD., LEICESTER, ENGLAND
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HERE'S HOW BUSINESSMEN RATE NEW YORK STATE

You are planning now for the postwar period. Here are facts, revealed in a poll of New York State manufacturers, of real importance to you. Unbiased opinions, of men who know from years of practical experience, rate New York as a good State in which to do business.

91% give approval to New York for the availability of *raw and semi-processed materials*—both produced in the State and imported.

92% endorse New York's unexcelled and diversified *transportation system*—railway and truck transportation plus waterway and port facilities that give it a time and rate advantage in shipping to mass markets.

91% like the *cooperativeness* of New York State *labor*. In 1943 New York lost a lower percentage of manhours due to strikes than any other industrial State.

97% praise New York as a *market*. Over a quarter of the nation's population and a third of the retail sales right at hand put the nation's number one market at industry's doorstep in the Empire State.

92% approve the service and cost of the State's electric, water and gas *utilities*. New York is the nation's number one powerhouse, with continuity, flexibility and low cost of service.

91% give an O.K. to New York for the service and cost of *fuel*—coal, oil and gas.

How You Can Capitalize On These Advantages

With such a favorable economic environment, New York State should be considered in your postwar plans. Wherever you are located, the State Department of Commerce can help you. We can assist you on plant locations; supply information on manpower; get you a preview of taxes for a new enterprise; give technical service on new materials and new products; help promote opportunities in foreign trade.

Accept This Informative Book

The services we can render are fully described in our new book "New York Means Business." In it business men tell in their own words their experience with labor, transportation, markets and other factors of doing business in New York. Send for your copy on your business letterhead.

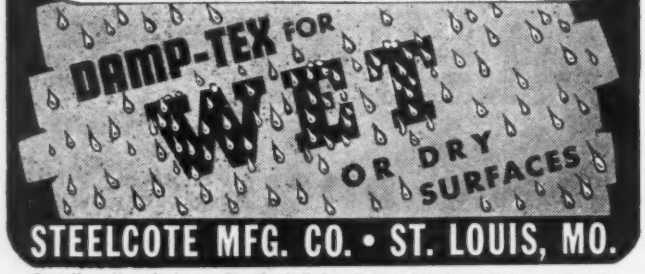
ADDRESS: M. P. CATHERWOOD
COMMISSIONER
NEW YORK STATE DEPARTMENT OF COMMERCE
ROOM 446, 112 STATE ST., ALBANY 1, NEW YORK

NEW YORK MEANS BUSINESS

Damp-Tex super-enamel can be applied to surfaces despite moisture, heat, fumes and many other extreme conditons. Its water-proof film retards deterioration, increases efficiency, turns depressing, dingy interiors into gleaming, porcelain-smooth beauty. Resistant to fungus, 2% caustic solution, steam and lactic acid. One coat covers. Comes in white and colors. Used in over 4000 plants. Write for our trial offer.

Proved Fungus Resistant by FUNGUS TEST

Proved Lactic Acid Resistant by ACID TEST



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Canadian Manufacturer—Standard Paint & Varnish Co., Windsor, Canada

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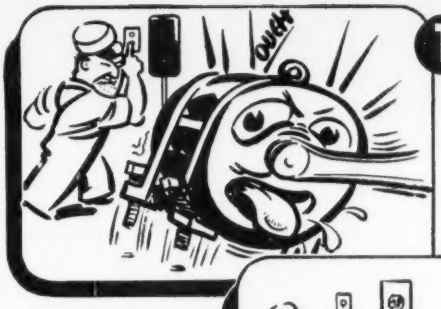
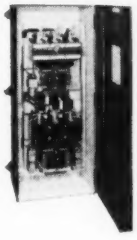
Yale & Towne Mfg. Co., Kron Scale Div. 82

The ordinary compensator or transformer starter is tough on motors, belts, gears, and machines.



AUTOMATIC TRANSFORMER TYPE STARTER

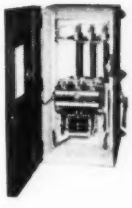
This type of starter (sometimes called a compensator) is often used for alternating current motors. It should not be applied to textile machinery where delicate threads are likely to be broken by sudden starting jerks, thereby affecting the quality of the product. A violent jolt occurs when the motor is connected to the line. The second, and often more abrupt, jolt occurs when the motor is switched from START to RUN position.



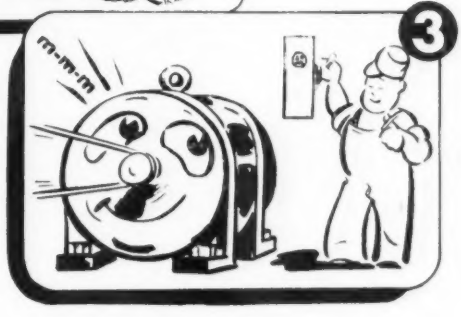
The Allen-Bradley Automatic Resistance Starter eliminates the human element in starting textile machinery and, thereby, reduces yarn breakage.

AUTOMATIC RESISTANCE STARTER

This Allen-Bradley Bulletin 740 resistance starter brings the motor up to speed automatically without jolt or jerk. The operator touches the START button, and the starter does the rest. There is no starting strain on yarn or thread.



The Allen-Bradley Manual or Semi-Automatic Starter affords velvet-smooth regulation of motor current and, thereby, prevents the sudden jolts or jerks which cause thread or yarn breakage. The starting time is completely under the operator's control.



MANUAL RESISTANCE STARTER

This Allen-Bradley Bulletin 640 resistance starter provides velvet-smooth speed control from standstill to full speed. Yarn or thread breakage is prevented, and the quality of your output is improved.

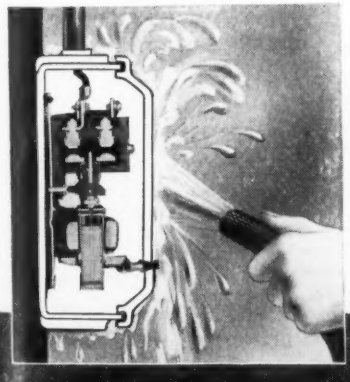
3 Different Ways to START Textile Mill Motors

The sketches above show three ways to start textile mill motors. In some applications it makes little difference whether a motor-driven machine starts smoothly or not. But, for spinning frames and many other textile machines, a velvet-smooth start is vitally essential. For such machines there is only one answer—use an Allen-Bradley resistance starter (either a Bulletin 640 manual starter or a Bulletin 740 automatic starter). They prevent starting jolts that cause thread breakage.

The secret of Allen-Bradley velvet-smooth control is the graphite compression resistor—an exclusive Allen-Bradley development. Insulated steel tubes, filled with graphite discs, control the motor current without steps or jolts. No other type of control can duplicate this amazing performance. Let us send you Bulletins 640-740 with the full story.

Allen-Bradley Company
120 W. Greenfield Ave., Milwaukee 4, Wis.

Allen-Bradley motor starters are available in several types of standard enclosures to meet dusty, wet, or other unusual mill conditions. Send for Bulletins 709, 640, and 740, today.



An interesting bulletin on textile mill motor control. Mailed on request.

A-B Quality

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